

TC-KA1ESA/KE500S

SERVICE MANUAL

US Model

TC-KA1ESA/KE500S

Canadian Model

TC-KA1ESA

AEP Model

UK Model

Australian Model

E Model

TC-KE500S



Photo : TC-KE500S

* Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.

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Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	TCM-190VB14

SPECIFICATIONS

System

Recording system

4-track 2-channel stereo

Fast winding time (approx.)

90 sec. (with Sony C-60 cassette)

High-speed fast-winding time (approx.)

45 sec. (with Sony C-60 cassette)

Bias

AC bias

Heads

Erasing head \times 1 (S&F head)
Recording head \times 1 (SD head)
Playing head \times 1 (SD head)

Motors

Capstan motor \times 1 (DC servo motor)
Reel motor \times 1 (DC motor)

Signal-to-noise ratio (at peak level, weighted, and with Dolby NR off)

Type I tape, Sony Type I (NORMAL): 57 dB
Type II tape, Sony Type II (HIGH): 59 dB
Type IV tape, Sony Type IV (METAL): 61 dB

S/N ratio improvement (approximate values)

With Dolby B NR on: 5 dB at 1 kHz, 10 dB at 5 kHz
With Dolby C NR on: 15 dB at 500 Hz, 20 dB at 1 kHz
With Dolby S NR on: 10 dB at 100 Hz, 24 dB at 1 kHz

Harmonic distortion

0.4% (with Type I tape, Sony Type I (NORMAL):
160n Wb/m 315 Hz, 3rd H.D.)
1.5% (with Type IV tape, Sony Type IV (METAL):
250n Wb/m 315 Hz, 3rd H.D.)

Frequency response (Dolby NR off)

Type I tape, Sony Type I (NORMAL):
20 - 17,000 Hz (± 3 dB, IEC)
15 - 18,000 Hz (± 6 dB)
Type II tape, Sony Type II (HIGH):
20 - 18,000 Hz (± 3 dB, IEC)
15 - 19,000 Hz (± 6 dB)
Type IV tape, Sony Type IV (METAL):
20 - 19,000 Hz (± 3 dB, IEC)
20 - 16,000 Hz (± 3 dB, -4dB recording)
15 - 21,000 Hz (± 6 dB)

— Continued on page 2 —

STEREO CASSETTE DECK
SONY[®]

Wow and flutter

±0.085% W. Peak (IEC)
0.055% W. RMS (NAB)
±0.16% W. Peak (DIN)

Inputs

Line inputs (phono jacks)

Sensitivity: 0.16 V
Input impedance: 47 kilohms

Outputs

Line outputs (phono jacks)

Rated output level: 0.5 V at a load impedance of
47 kilohms
Load impedance: Over 10 kilohms

Headphones (stereo phone jack)

Output level: 0.25 mW at a load impedance of
32 ohms

General

Power requirements

Where purchased	Power requirements
US, Canadian model :	120 V AC, 60 Hz
AEP, UK, German, Malaysia, Singapore model :	220 - 230 V AC, 50/60 Hz
Australian model :	240 V AC, 50 Hz
E model :	120, 220, or 240 V AC, 50/60 Hz adjustable with the voltage selector

Power consumption

21 W

Dimensions (approx.) (w/h/d)

430 × 120 × 310 mm (17 × 4 ³/₄ × 12 ¹/₄ inches)
incl. projecting parts and controls

Mass (approx.)

4.2 kg (9 lbs 5 oz)

Supplied accessories

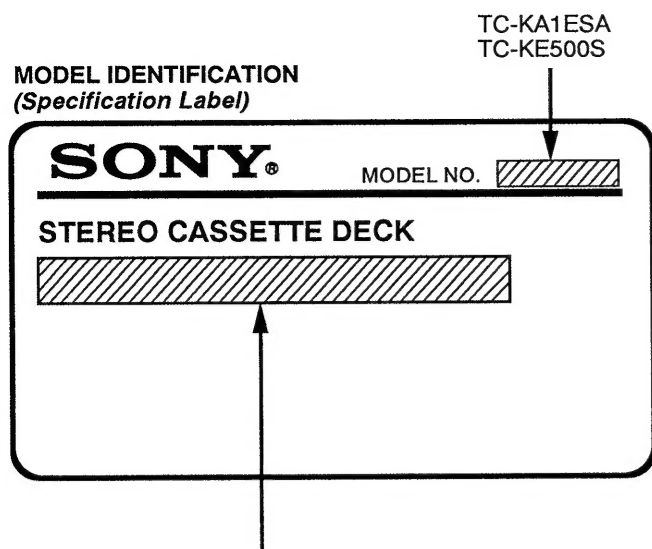
Audio connecting cords (2)

Design and specifications are subject to change without notice.

TABLE OF CONTENTS



Section	Title	Page
	Specifications	1
1. GENERAL		
	Identifying the Parts on the Front Panel	4
2. DISASSEMBLY		
	2-1. Front Panel Removal	5
	2-2. Mechanism Deck	5
	2-3. Head	6
	2-4. Fitting Base Block	6
	2-5. Motor	6
3. ADJUSTMENTS		
	3-1. Mechanical Adjustments	7
	3-2. Electrical Adjustments	7
4. EXPLANATION OF IC TERMINALS		11
5. DIAGRAMS		
	5-1. Block Diagram	13
	5-2. Circuit Boards Location	16
	5-3. Printed Wiring Boards (Main Section)	17
	5-4. Schematic Diagram (Main (1/2) Section)	21
	5-5. Schematic Diagram (Main (2/2) Section)	25
	5-6. Printed Wiring Boards (Dolby (S) Board)	29
	5-7. Schematic Diagram (Dolby (S) Board)	29
6. EXPLODED VIEWS		
	6-1. Chassis Section	32
	6-2. Front Panel Section	34
	6-3. Mechanism Section 1	35
	6-4. Mechanism Section 2	36
7. ELECTRICAL PARTS LIST		37

MODEL IDENTIFICATION
(Specification Label)




US, Canadian model : AC 120V~60Hz
AEP, UK, German, Malaysia,
Singapore model : AC 220-230V~50/60Hz
Australian model : AC 240V~50/60Hz
E model : AC 120, 220 or 240V
adjustable~50/60Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

**ATTENTION AU COMPOSANT AYANT RAPPORT
À LA SÉCURITÉ!**

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE  SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT (US Model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

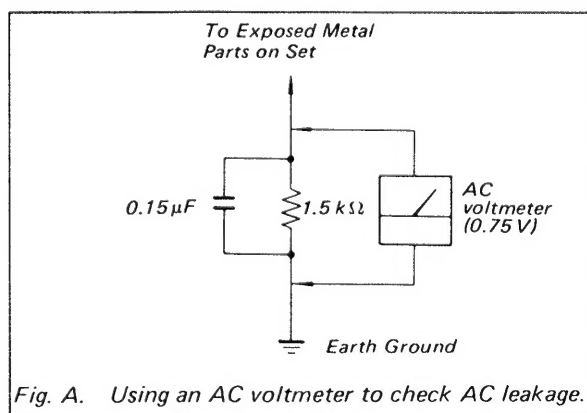
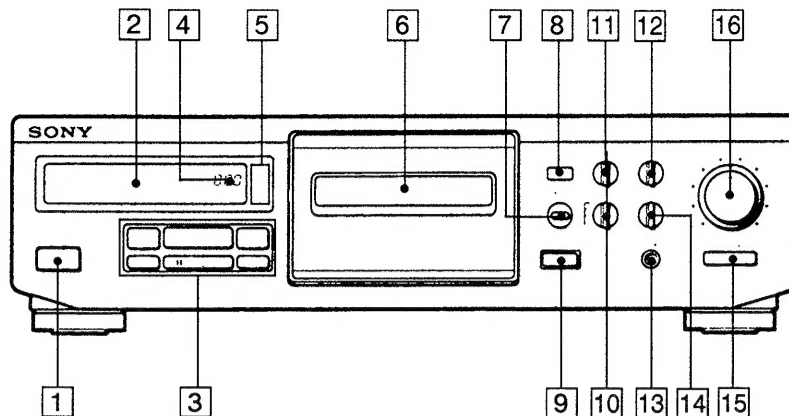


Fig. A. Using an AC voltmeter to check AC leakage.

SECTION 1 GENERAL

IDENTIFYING THE PARTS ON THE FRONT PANEL



- | | |
|---|--|
| <p>1 POWER switch</p> <p>2 Display panel</p> <p>3 Tape operation buttons</p> <p>◀◀ (rewind) (Multi - AMS[™]) button</p> <p>▶ (play) button</p> <p>▶▶ (fast - forward) (Multi - AMS[™]) button</p> <p>■ (stop) button</p> <p> PAUSE button</p> <p>○ REC MUTE (record muting) button</p> <p>● REC (record) button</p> <p>4 Tape counter</p> <p>5 Counter buttons</p> <p>RESET button</p> <p>MEMORY button</p> <p>6 Cassette holder</p> <p>7 CALIBRATION button</p> <p>8 Remote control sensor</p> | <p>9 ≡ (eject) button</p> <p>10 DOLBY NR (noise reduction) button</p> <p>11 BIAS control</p> <p>12 REC (recording) LEVEL control for calibration</p> <p>13 PHONES jack (stereo phone jack)</p> <p>14 BALANCE control</p> <p>15 MONITOR button</p> <p>16 REC (recording) LEVEL control</p> <p>[™]AMS is an abbreviation for Automatic Music Sensor</p> |
|---|--|

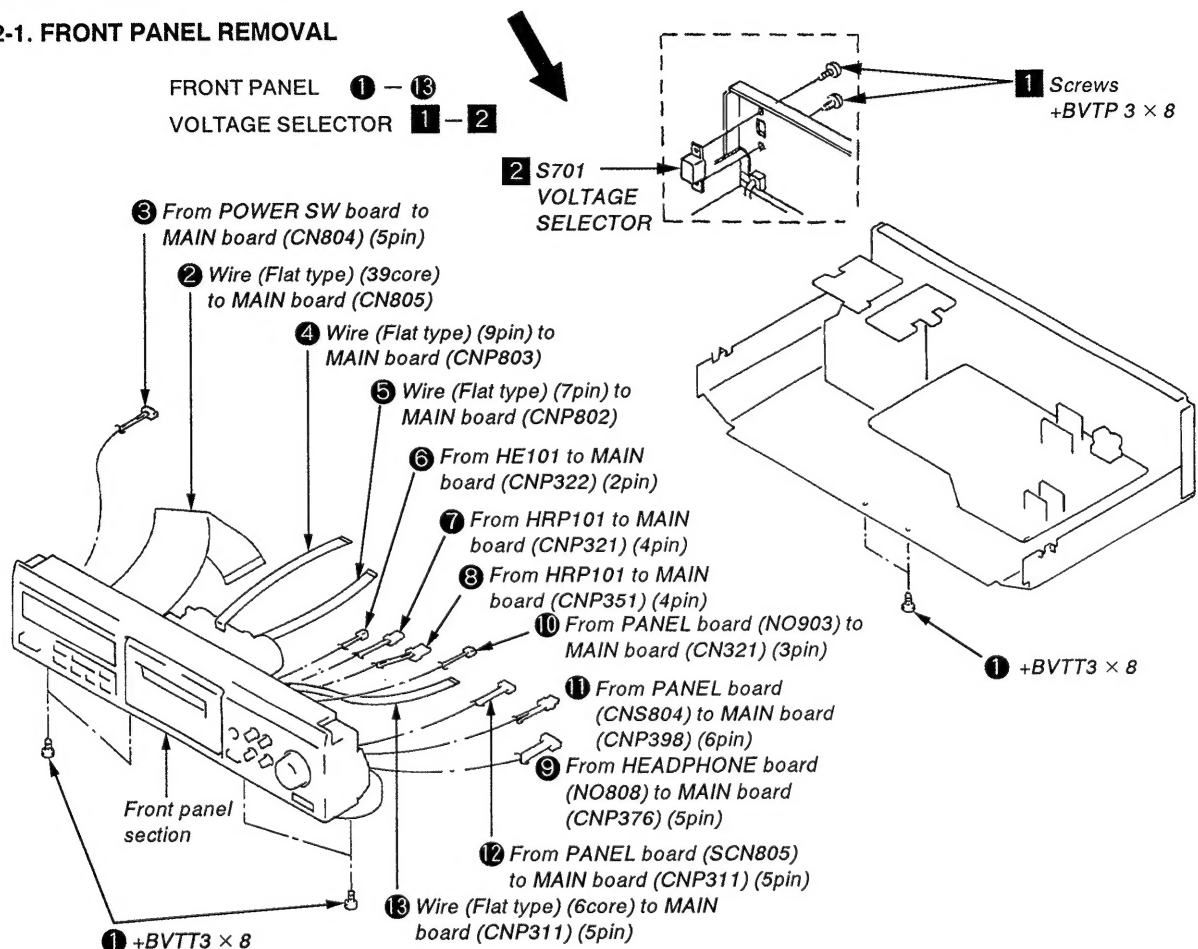
SECTION 2 DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

CASE

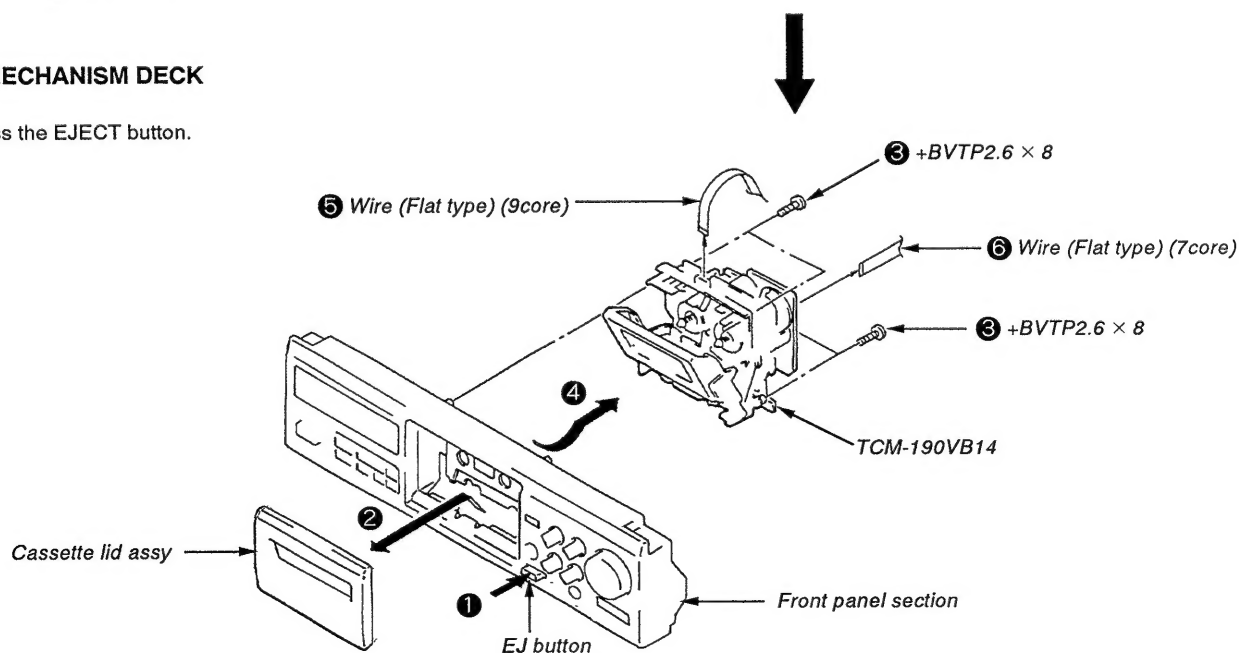
Unscrew the four case attachment screws M3 × 8 and remove the case.

2-1. FRONT PANEL REMOVAL

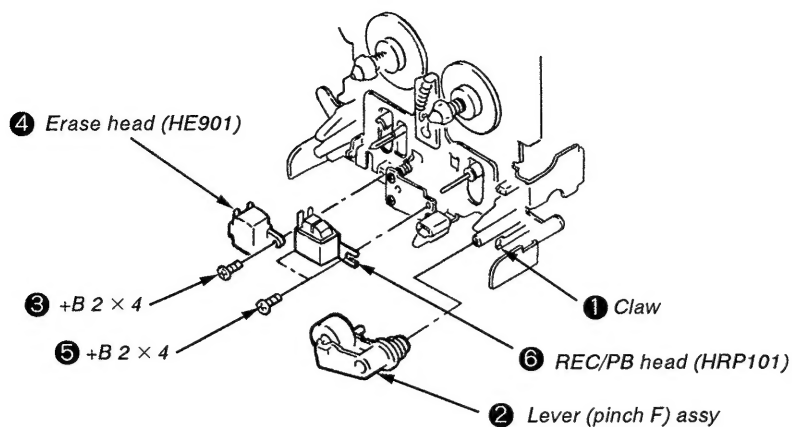


2-2. MECHANISM DECK

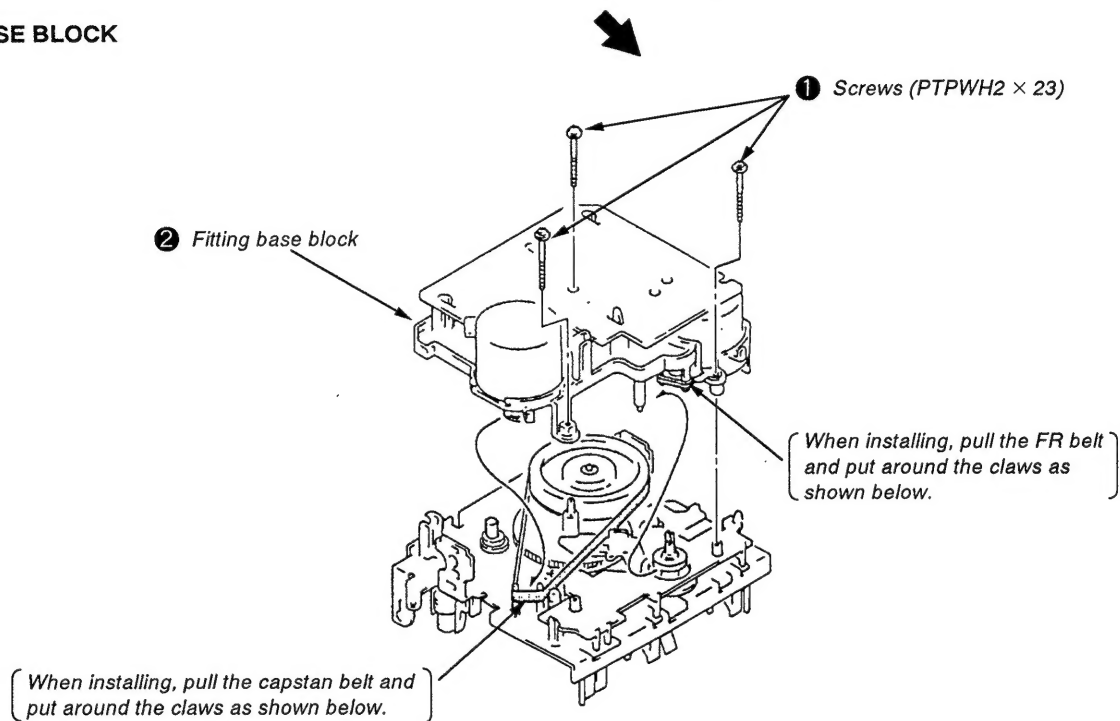
① Press the EJECT button.



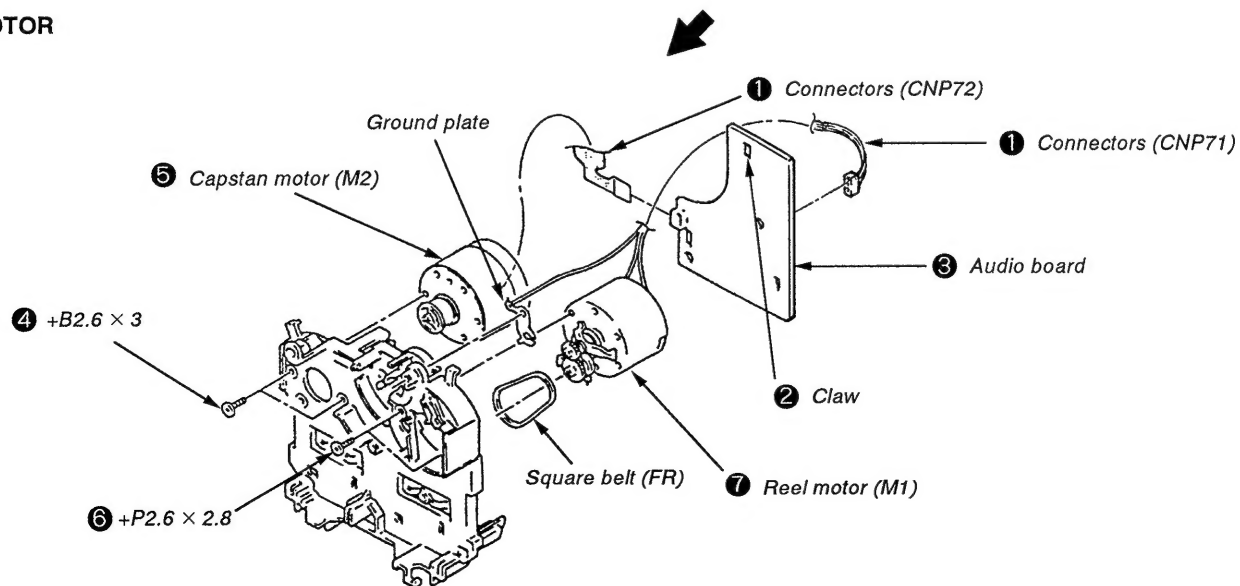
2-3. HEAD



2-4. FITTING BASE BLOCK



2-5. MOTOR



SECTION 3 ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured alcohol-moistened swab:

record/playback/erase head	pinch roller
rubber belts	capstan
idlers	
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustment.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

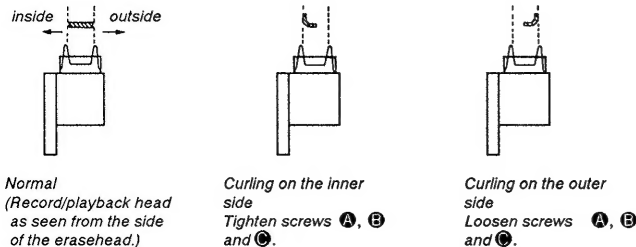
Mode	Torque meter	Meter reading
Forward	CQ-102C	30 to 65g•cm (0.42 to 0.90oz•inch)
Forward back tension	CQ-102C	1 to 6g•cm (0.014 to 0.08 oz•inch)
FF/REW	CQ-201B	70 to 120g•cm (0.98 to 1.66 oz•inch)

Record/Playback Head Height/Declination Adjustment Procedures :

1. Test cassette : CQ-009C
2. Insert the mirror cassette and put the unit in record/Playback mode.

1) Height Adjustment :

Check to see if the tape is curling at the tape guide of the head. If it is curling, tighten screws **A**, **B** and **C**, respectively by the same angle, moving the head so that it remains at the same angle throughout the procedure. If it curls on the bottom side of the mirror cassette (actually the inner side), tighten all the screws equally ; but loosen them if the tape begins to curl on the top side (outer side).



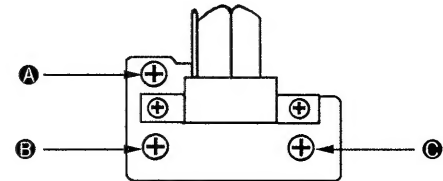
2) Declination Adjustment :

While in the record/playback position, set the back tension to 0 (wind the supply reel with something thin like a pencil in a counterclockwise direction) and make sure there is no curling or shifting (shifting up/shifting down) at the guide of the record/playback head.

Because shifting can only occur due to a difference in the width of the tape and that of the tape guides (curling will otherwise occur), it is necessary to pay close attention since it can be easily overlooked.

When there is a shift, tighten screws **B** and **C** equally and change the declination of the head. If the tape is shifting up, tighten the screws, and if it is shifting down, loosen them. Repeat the adjustments in steps 1) to 2) and fine adjust the height and the declination.

Adjustment Location : — record/playback head —

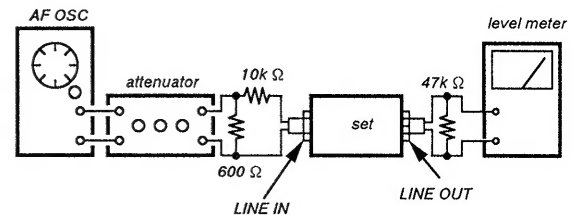


3-2. ELECTRICAL ADJUSTMENTS

PRECAUTION

1. The adjustment should be performed in the publication.
(Be sure to make playback adjustment at first.)
2. The adjustments and measurement should be performed for both L-CH and R-CH.
 - Switch position
DOLBY NR switch : OFF
 - Standard record position:
Deliver the standard input signal level to input jack and set the REC LEVEL control to obtain the standard output signal level as follows.

— Record Mode —



Standard Input Level

Input terminal	LINE IN
source impedance	10k Ω
input signal level	0.5V (- 3.8dB)

Standard Output Level

Output terminal	LINE OUT
load impedance	47k Ω
output signal level	0.5V (- 3.8dB)

Test Tape

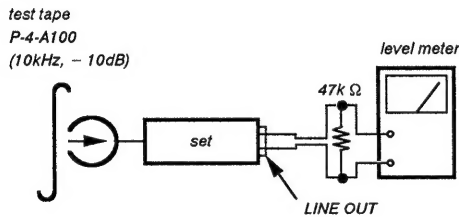
Tape	Contents	Use
P-4-A100	10kHz, - 10dB	Azimuth Adjustment
P-4-L300	315Hz, 0dB	PB Level Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment

0dB=0.775V

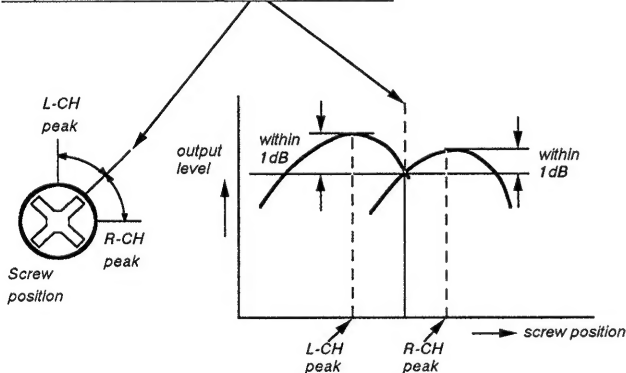
Record/Playback Head Azimuth Adjustment

Procedure :

1. Forward playback Mode

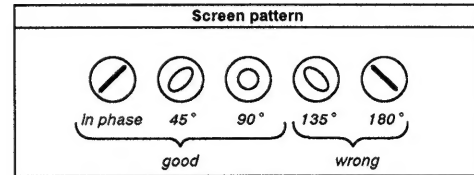
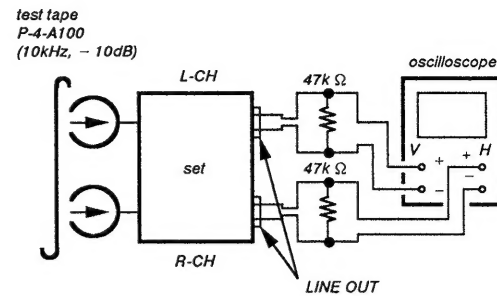


2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.



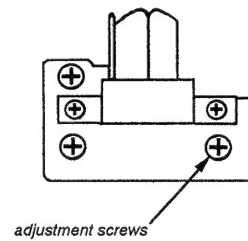
3. Phase check

Playback Mode



4. After the adjustment, lock the adjustment screws with suitable locking compound.

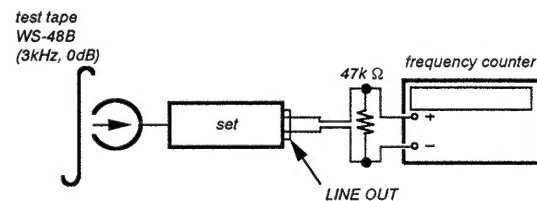
Adjustment Location : - record/playback head -



Tape Speed Adjustment

Procedure :

- Forward Playback Mode -



1. Set to FWD playback mode.
2. Adjust RV71 so that the frequency counter reading becomes $3,000 \pm 15\text{Hz}$.

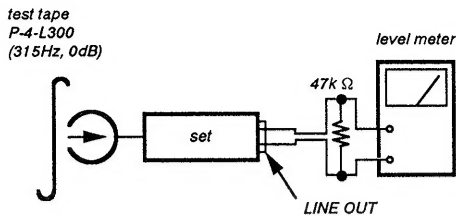
Frequency difference between the beginning and the end of the tape should be within 3%.

Adjustment Location : AUDIO board (Page 10)

Playback Level Adjustment

Procedure :

- Forward Playback Mode –



Adjust RV151 (L-CH) and RV251 (R-CH) so the level meter reading becomes the adjustment limits below.

Adjustment Value :

LINE OUT level : $-7.7 \pm 0.5\text{dB}$ (0.301 to 0.338V)

Level difference between channels : within 0.5dB

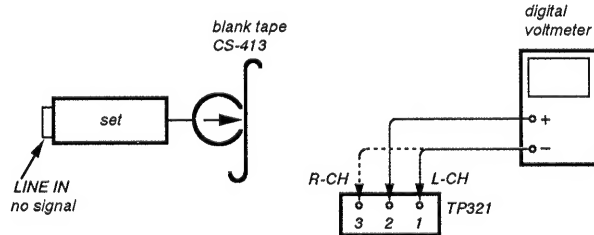
Confirm the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times

Adjustment Location : MAIN board (Page 10)

Bias Consumption Current Adjustment

This adjustment should be performed when replacing the head assy or the bias oscillating transformer (T121, T221).

Procedure :



1. Connect the digital voltmeter to test point TP321.
2. Set RV121 (L-CH) and RV221 (R-CH) to mechanical center.
3. Set to FWD record mode.
4. Adjust T121 (L-CH) and T221 (R-CH) so that the digital voltmeter reading becomes minimum.

Adjustment Location : MAIN board (Page 10)

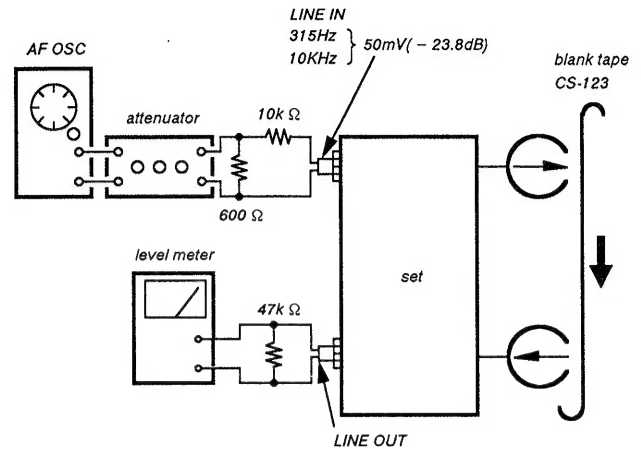
Record Bias Adjustment

Setting :

REC LEVEL control : Standard Record

Procedure :

1. Mode : Simultaneous record and playback



2. Adjust RV121 (L-CH) and RV221 (R-CH) so that the 10 kHz playback output is $0 \pm 0.3\text{dB}$ relative to the 315Hz output.

Adjustment Location : MAIN board (Page 10)

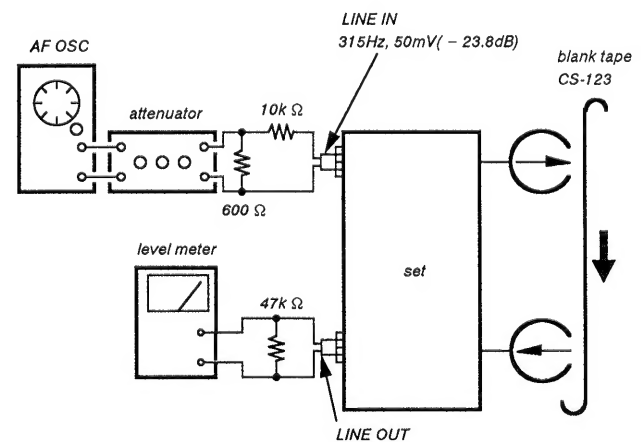
Record Level Adjustment

Setting :

REC LEVEL control : Standard Record

Procedure :

1. Mode : Simultaneous record and playback



2. Adjust RV112 (L-CH) and RV212 (R-CH) so that the level meter reading becomes the adjustment limits below.

Adjustment Value : $-23.8 \pm 0.5\text{dB}$ (47.2 to 53mV)

Adjustment Location : MAIN board (Page 10)

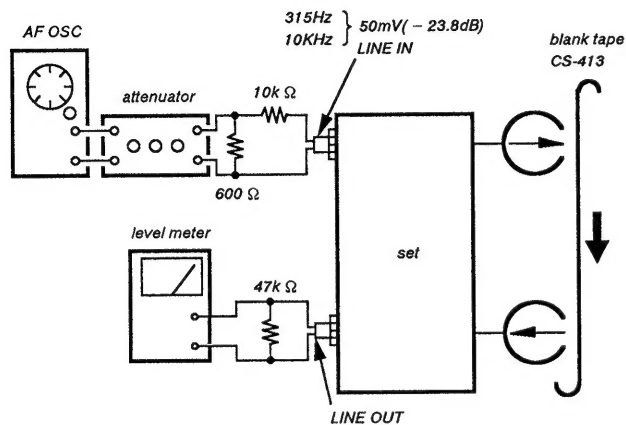
Record EQ (IV) Adjustment

Setting :

REC LEVEL control : Standard Record

Procedure :

1. Mode : Simultaneous record and playback



2. Adjust RV111 (L-CH) and RV211 (R-CH) so that they become maximum.
3. Adjust RV111 (L-CH) and RV211 (R-CH) so that the difference between R-CH and L-CH at 10 kHz is within 1dB.
4. Adjust RV312 so that the R-CH becomes the adjustment value.

Adjustment Level :

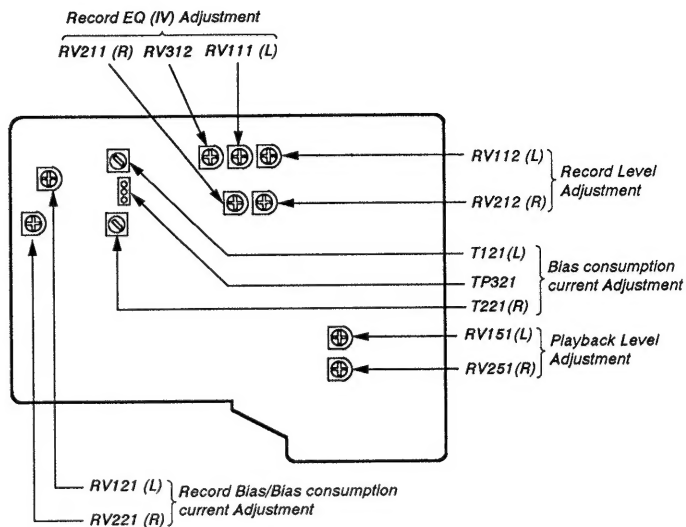
The playback output of 10kHz level difference against 315Hz reference should be $\pm 1.0\text{dB}$.

Adjustment Location : MAIN board

— Adjustment Parts Location Diagrams —

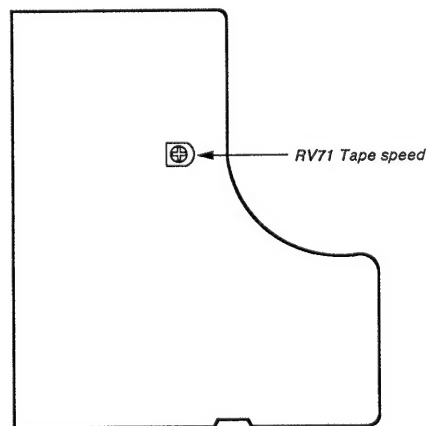
【MAIN BOARD】

(Component Side)



【AUDIO BOARD】

(Component Side)



SECTION 4

EXPLANATION OF IC TERMINALS

IC801 M38172M4-171FP (SYSTEM CONTROL/VFD901 DRIVE)

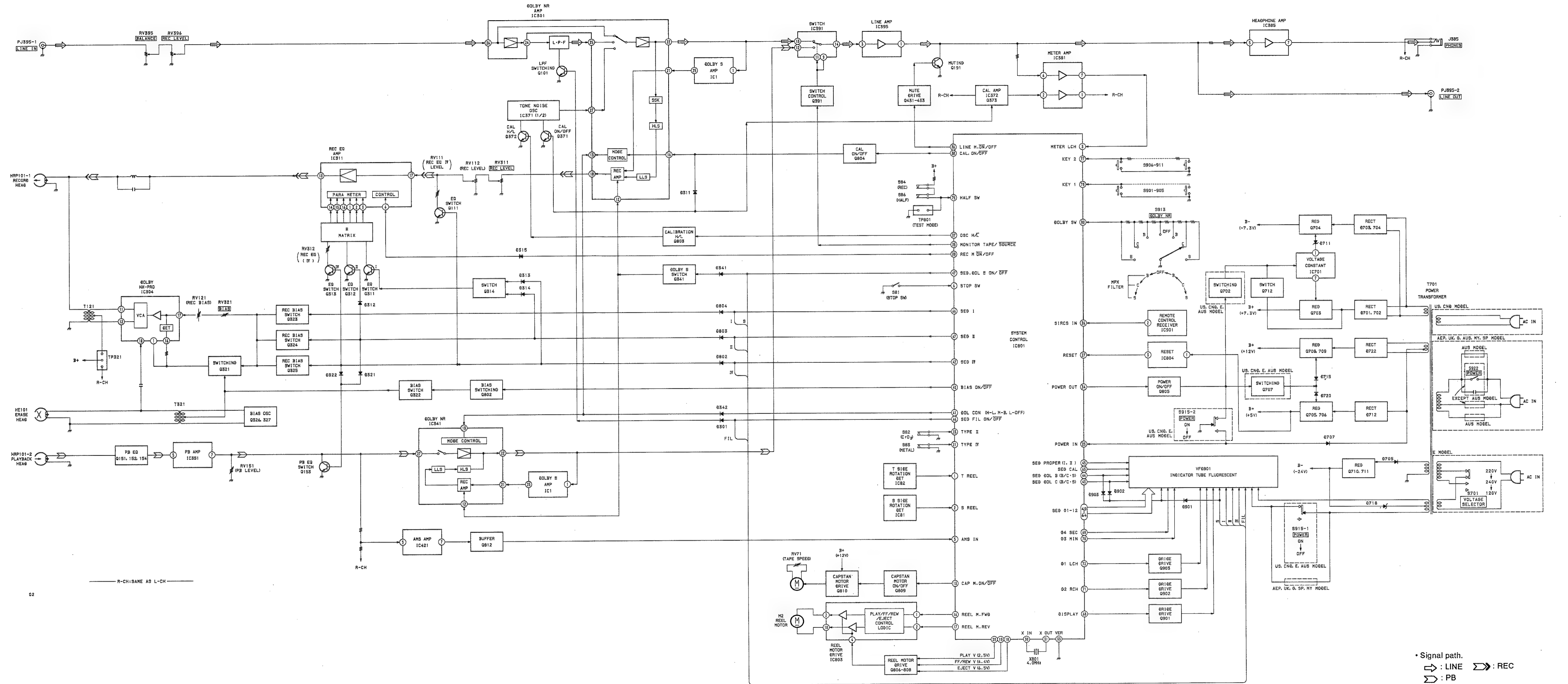
Pin No.	Pin name	I/O	Description
1	T • REEL	I	Take up reel rotation detection input.
2	S • REEL	I	Supply reel rotation detection input.
3	METER L-CH	I	Meter level L-CH input.
4	METER R-CH	I	Meter level R-CH input.
5	AMS • IN	I	AMS signal input terminal.
6	STOP SW	I	Mechanism stop switch input terminal.
7	CLOSE SW	—	Not used. (H level)
8	OPEN SW	—	Not used. (H level)
9	CAM • SW3	—	Not used. (H level)
10	CAM • SW2	—	Not used. (H level)
11	CAM • SW1	—	Not used. (H level)
12	CAM • SW0	—	Not used. (H level)
13	CAP • M • ON/OFF	O	Capstan motor ON/OFF control. H : ON
14	ASIST M • UP	—	Not used. (L level)
15	ASIST M • DOWN	—	Not used. (L level)
16	REEL M • FWD	O	Reel motor FWD control.
17	REEL M • REV	O	Reel motor REW control.
18	EJECT • V (6.5V)	O	Reel motor eject control.
19	FF/REW • V (4.4V)	O	Reel motor FF/REW control.
20	PLAY • V (2.5V)	O	Reel motor play control.
21	TYPE • IV	I	Type IV SW input terminal.
22	HALF SW	—	Not used. (Open)
23	TYPE • II	I	Type II SW input terminal.
24	TAB • SW	—	Not used. (H level)
25	POWER IN	I	Power OFF detection terminal.
26	SIRCS IN	I	Sircs signal input terminal.
27	RESET	I	System reset terminal.
28	XC IN	—	Not used. (Open)
29	XC OUT	—	Not used. (Open)
30	X IN	I	System clock oscillator input. (4.0MHz)
31	X OUT	O	System clock oscillator output. (4.0MHz)
32	VSS	—	Ground.
33	VER 200/I90	I	Version selection input.
34	POWER OUT	O	Power hold output terminal.
35	MONITOR TAPE/SOURCE	O	Audio mode select terminal.
36	LINE M • ON/OFF	O	Line mute ON/OFF control.
37	OSC H/L	O	OSC frequency H/L selection terminal.
38	CAL ON/OFF	O	Calibration ON/OFF control.
39	REC M • ON/OFF	O	REC mute ON/OFF control.
40	BIAS ON/OFF	O	Bias ON/OFF control.

Pin No.	Pin name	I/O	Description
41	DOL • CON (H-C, M – B, L-OFF)	O	Dolby ON/OFF control.
42	SEG • IV	O	Bias EQ IV control.
43	SEG • DOL C (B/C • \bar{S})	O	VFD segment drive (Dolby C).
44	SEG • DOL B (B/C • \bar{S})	O	VFD segment drive (Dolby B).
45	SEG PROPER (I , II)	O	VFD segment drive (Type I , II).
46	SEG•FIL ON/ $\overline{\text{OFF}}$	O	VFD segment drive (Filter).
47	SEG•DOL S ON/ $\overline{\text{OFF}}$	O	VFD segment drive (Dolby S).
48		–	Not used. (Open)
49	SEG01	O	VFD segment drive.
50	SEG02	O	VFD segment drive.
51	SEG06	O	VFD segment drive.
52	SEG07	O	VFD segment drive.
53	SEG03	O	VFD segment drive.
54	SEG05	O	VFD segment drive.
55	SEG04	O	VFD segment drive.
56	SEG08	O	VFD segment drive.
57	SEG16	O	VFD segment drive.
58	SEG9	O	VFD segment drive.
59	SEG10	O	VFD segment drive.
60	SEG14	O	VFD segment drive.
61	SEG15	O	VFD segment drive.
62	SEG11	O	VFD segment drive.
63	SEG13	O	VFD segment drive.
64	SEG12	O	VFD segment drive.
65	SEG • CAL	O	VFD segment drive. (calibration)
66	SEG • I	O	Bias EQ I control.
67	SEG • II	O	Bias EQ II control.
68	G5-DISPLAY	O	VFD colum display.
69	G4-SEC	O	VFD colum SEC.
70	G3-MIN	O	VFD colum MIN.
71	G2-RCH	O	VFD colum R-CH.
72	G1-LCH	O	VFD colum L-CH.
73	VCC	–	Power supply. (+5V)
74	VEE	–	Power supply. (–24V)
75	AVSS	–	Analog for power supply. (Ground)
76	VREF	–	A/D referance voltage. (+5V)
77	KEY2	I	Key input terminal.
78	KEY1	I	Key input terminal.
79	HALF SW	I	Half pawl switch input terminal.
80	DOLBY SW	I	Dolby switch input terminal.

SECTION 5

DIAGRAMS

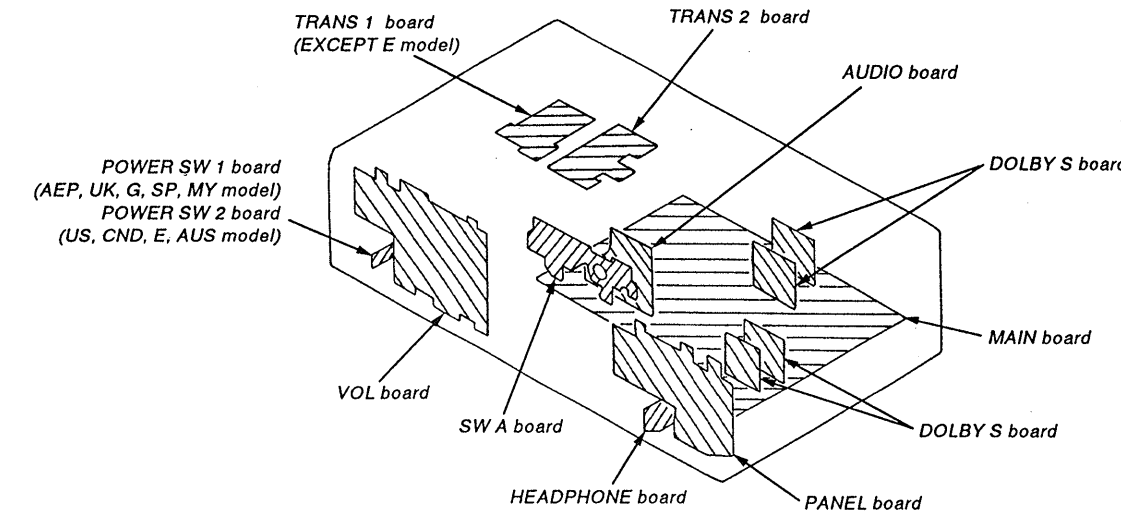
5-1. BLOCK DIAGRAM



- Signal path.
 - ⇒ : LINE ⇨ : REC
 - ⇩ : PB
- Abbreviation

CND	: Canadian	SP	: Singapore
AUS	: Australian	G	: German
MY	: Malaysia		

5-2. CIRCUIT BOARDS LOCATION

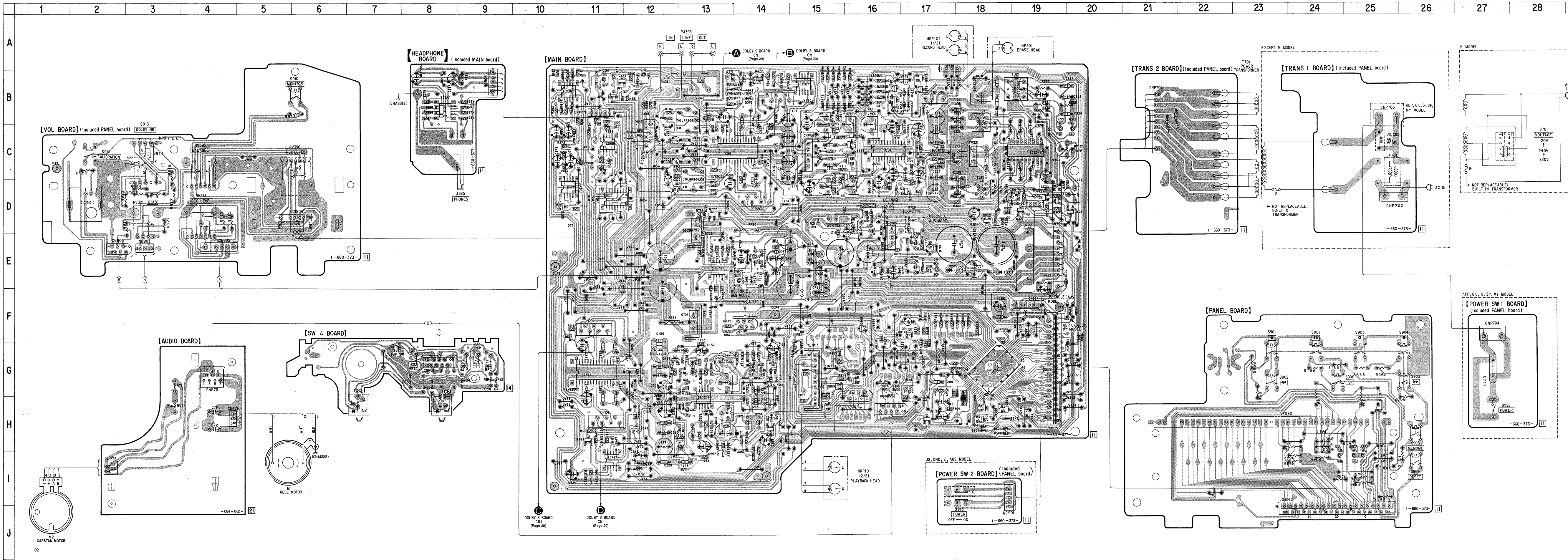


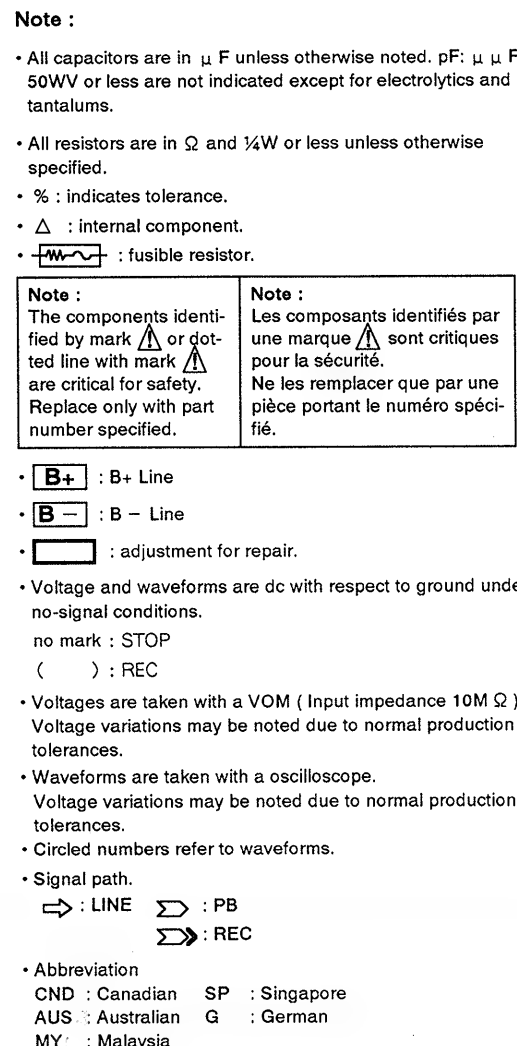
● SEMICONDUCTOR LOCATION

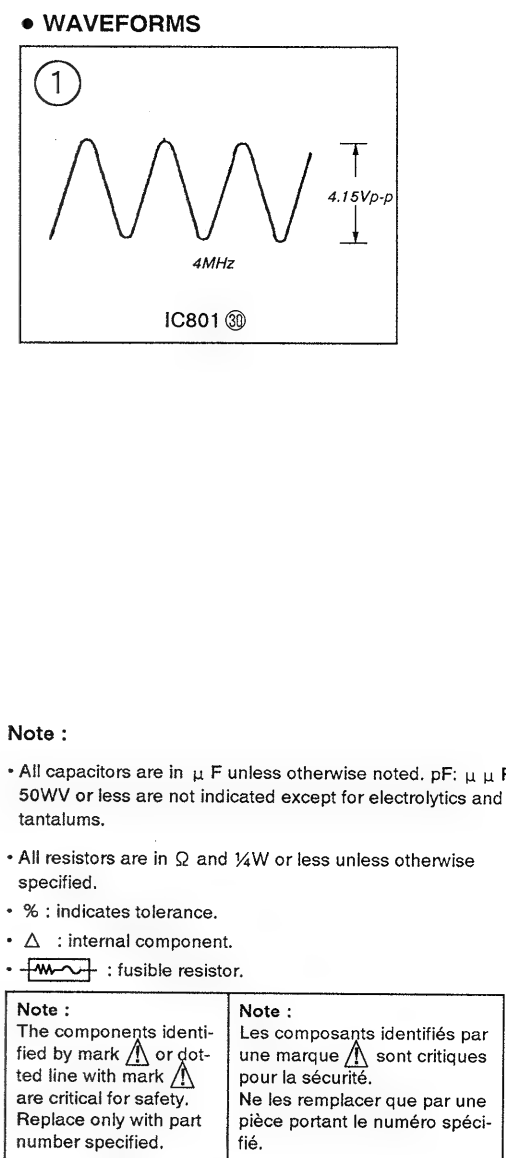
Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D151	G-14	D715	D-16	IC801	G-18	Q352	H-13
D181	B-11	D716	D-15	IC803	G-15	Q371	B-2
D182	B-10	D717	E-17	IC804	G-17	Q372	B-14
D183	C-10	D718	E-16	IC901	D-2	Q373	D-10
D251	H-14	D719	E-17			Q391	H-11
D281	B-11	D720	D-17	Q101	C-12	Q431	B-11
D282	B-10	D721	E-16	Q111	C-16	Q432	B-11
D283	C-11	D722	E-19	Q112	C-17	Q433	B-12
D301	H-18	D723	D-13	Q151	G-14	Q702	E-14
D311	B-17	D724	D-14	Q152	G-14	Q703	D-13
D312	B-17	D801	G-17	Q153	G-12	Q704	F-13
D313	B-17	D802	G-20	Q154	G-14	Q705	D-16
D314	B-17	D803	G-19	Q191	B-12	Q706	E-17
D315	B-17	D804	F-20	Q201	D-12	Q707	D-16
D321	H-18	D901	H-24	Q211	C-16	Q708	A-17
D322	H-18	D902	H-24	Q212	D-17	Q709	D-15
D341	H-18	D903	I-24	Q251	H-14	Q710	E-17
D342	H-18			Q252	H-14	Q711	E-17
D371	B-13			Q253	H-12	Q712	E-14
D372	B-13			Q254	H-14	Q722	D-13
D373	B-14	IC81	H-8				
D431	E-14	IC82	H-7				
D701	E-15	IC301	C-13	Q291	B-11	Q802	H-17
D702	E-15	IC304	C-19	Q311	B-16	Q803	H-17
D703	F-15	IC311	C-16	Q312	B-17	Q804	H-17
				Q313	B-17	Q805	H-17
				Q314	B-16	Q806	G-16
D704	E-15	IC341	G-11				
D705	E-17	IC351	H-13	Q321	D-19	Q807	G-15
D706	D-16	IC371	B-15	Q322	D-18	Q808	H-15
D707	E-19	IC372	D-11	Q323	D-19	Q809	F-16
D708	E-14	IC381	B-10	Q324	D-20	Q810	G-15
				Q325	D-19	Q812	F-17
D709	E-14	IC385	B-8				
D710	E-13	IC391	D-11	Q326	C-19	Q901	I-24
D711	F-13	IC395	C-11	Q327	C-20	Q902	I-25
D712	E-18	IC421	I-11	Q341	H-12	Q903	I-25
		IC701	E-13	Q351	G-13		

Note:


- : parts extracted from the component side.
- ▨ : Pattern on the side which is seen.
- Abbreviation
CND : Canadian SP : Singapore
AUS : Australian G : German
MY : Malaysia










Note :

- All capacitors are in μ F unless otherwise noted, pF: μ F ≥ 5000 or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}W$ or less unless otherwise specified.
- % : indicates tolerance.
- Δ : internal component.
-  : fusible resistor.

<p>Note :</p> <p>The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.</p>	<p>Note :</p> <p>Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.</p>
--	--

-  : B+ Line
-  : B- Line
-  : adjustment for repair.

• Voltage and waveforms are dc with respect to ground unless no-signal conditions.

no mark : STOP

() : REC

• Voltages are taken with a VOM (Input impedance 10M Ω).

• Voltage variations may be noted due to normal production tolerances.

• Waveforms are taken with a oscilloscope.

• Voltage variations may be noted due to normal production tolerances.

• Circled numbers refer to waveforms.

• Abbreviation

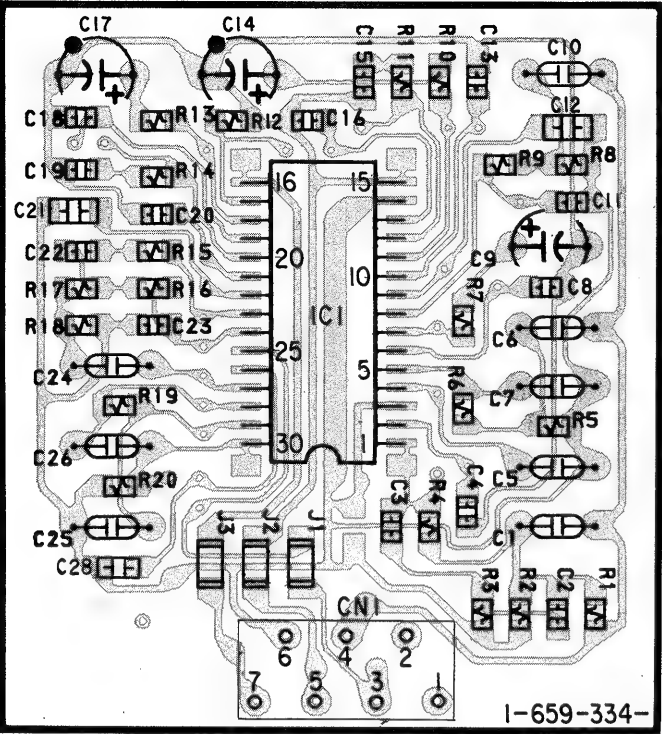
CND : Canadian SP : Singapore

AUS : Australian G : German

MY : Malaysia

5-6. PRINTED WIRING BOARDS (DOLBY (S) BOARD)

[DOLBY S BOARD]



A, B, C, D

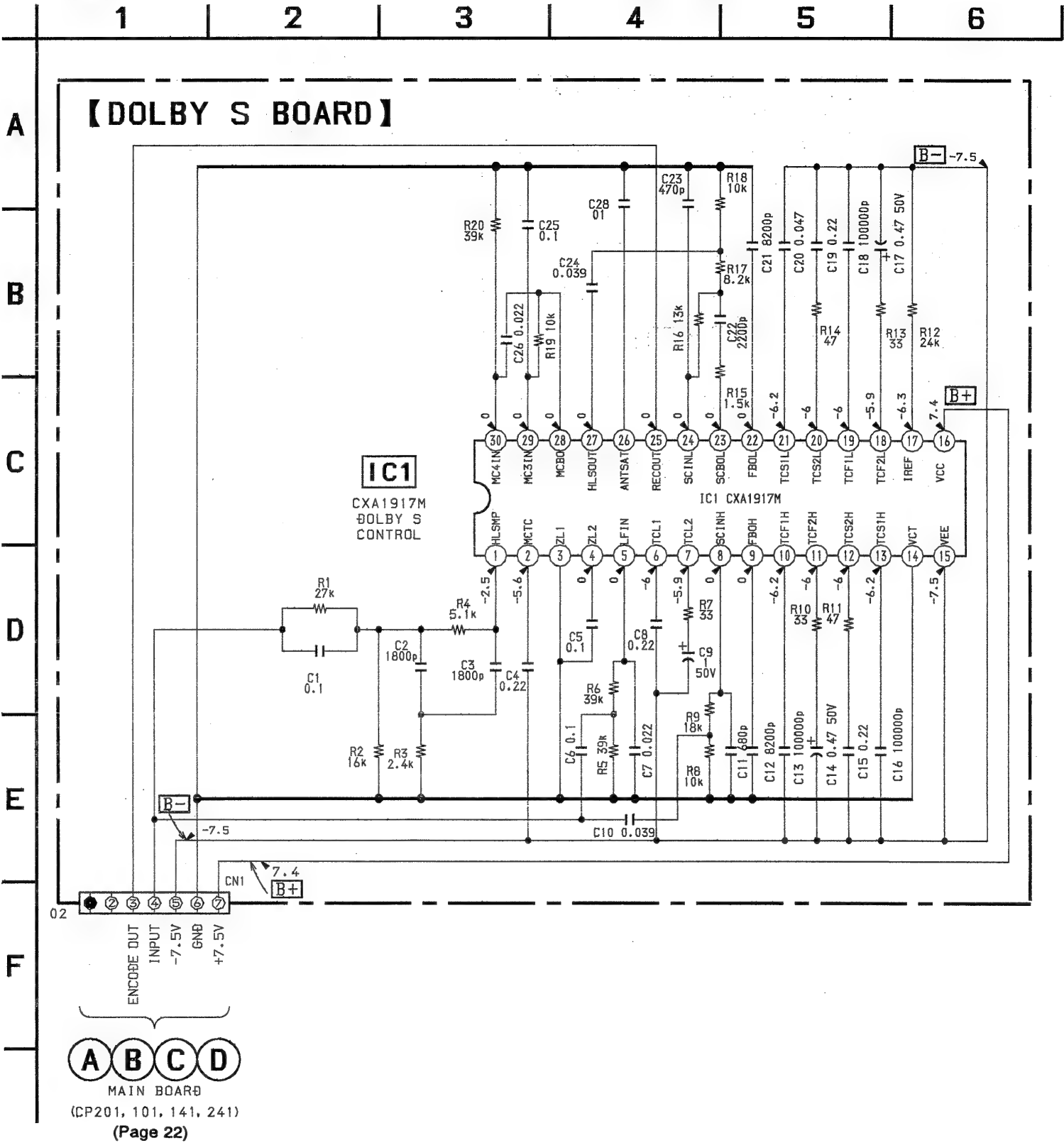
MAIN BOARD
CP201, 101, 141, 241
(Page 18) (Page 18)
(Page 19) (Page 18)

Note:

- : parts extracted from the component side.
- ⊞ : Pattern on the side which is seen.

5-7. SCHEMATIC DIAGRAM (DOLBY (S) BOARD)

• Refer to page 31 for IC Block Diagram.



A, B, C, D

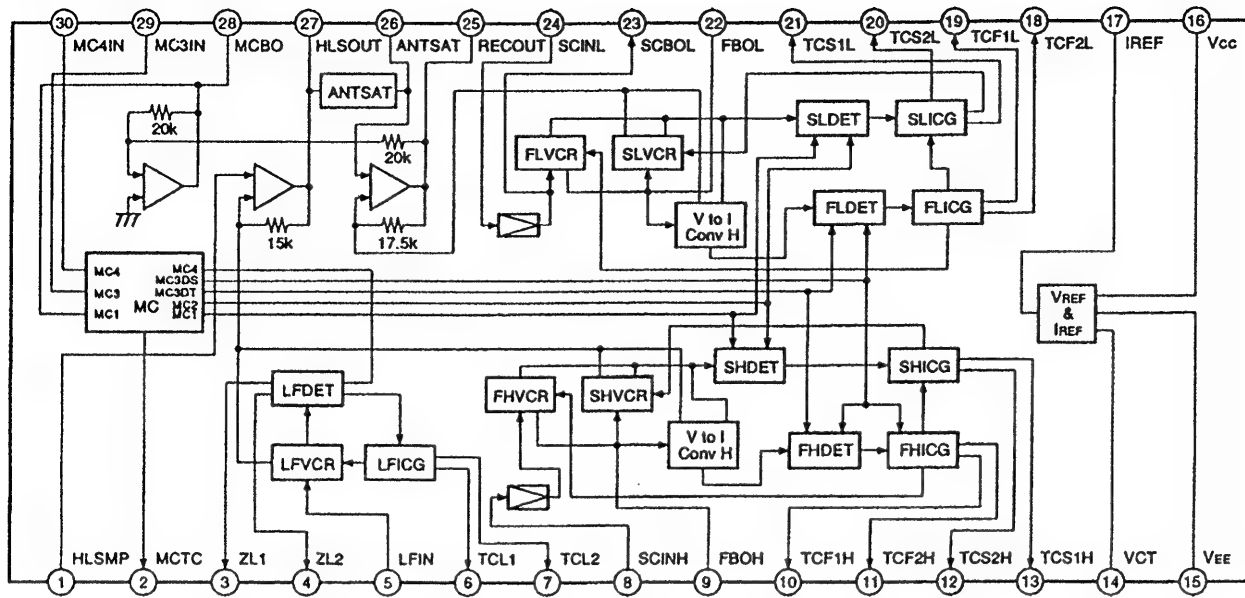
MAIN BOARD
(CP201, 101, 141, 241)
(Page 22)

Note :

- All capacitors are in μ F unless otherwise noted. pF: μ F
- 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}$ W or less unless otherwise specified.
- % : indicates tolerance.
- B+** : B+ Line
- B-** : B- Line

- Voltage and waveforms are dc with respect to ground under no-signal conditions.
no mark: STOP
- Voltages are taken with a VOM (Input impedance 10M Ω).
Voltage variations may be noted due to normal production tolerances.
- Voltage variations may be noted due to normal production tolerances.

● IC BLOCK DIAGRAM
IC1 CXA1917AM-T6



SECTION 6 EXPLODED VIEWS

NOTE :

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

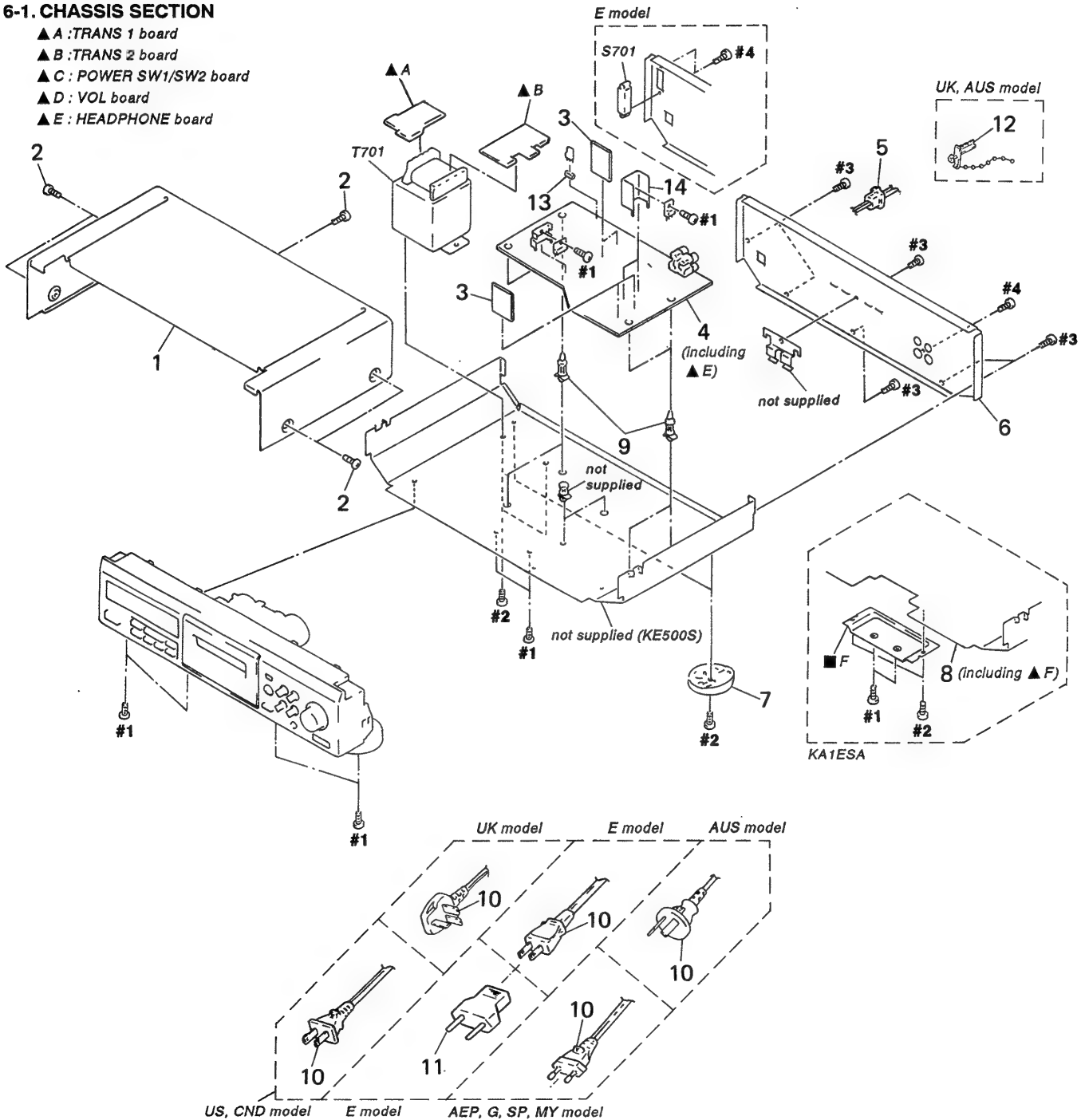
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
 CND : Canadian SP : Singapore
 AUS : Australian G : German
 MY : Malaysia

The components identified by mark Δ or dotted line with mark Δ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

6-1. CHASSIS SECTION

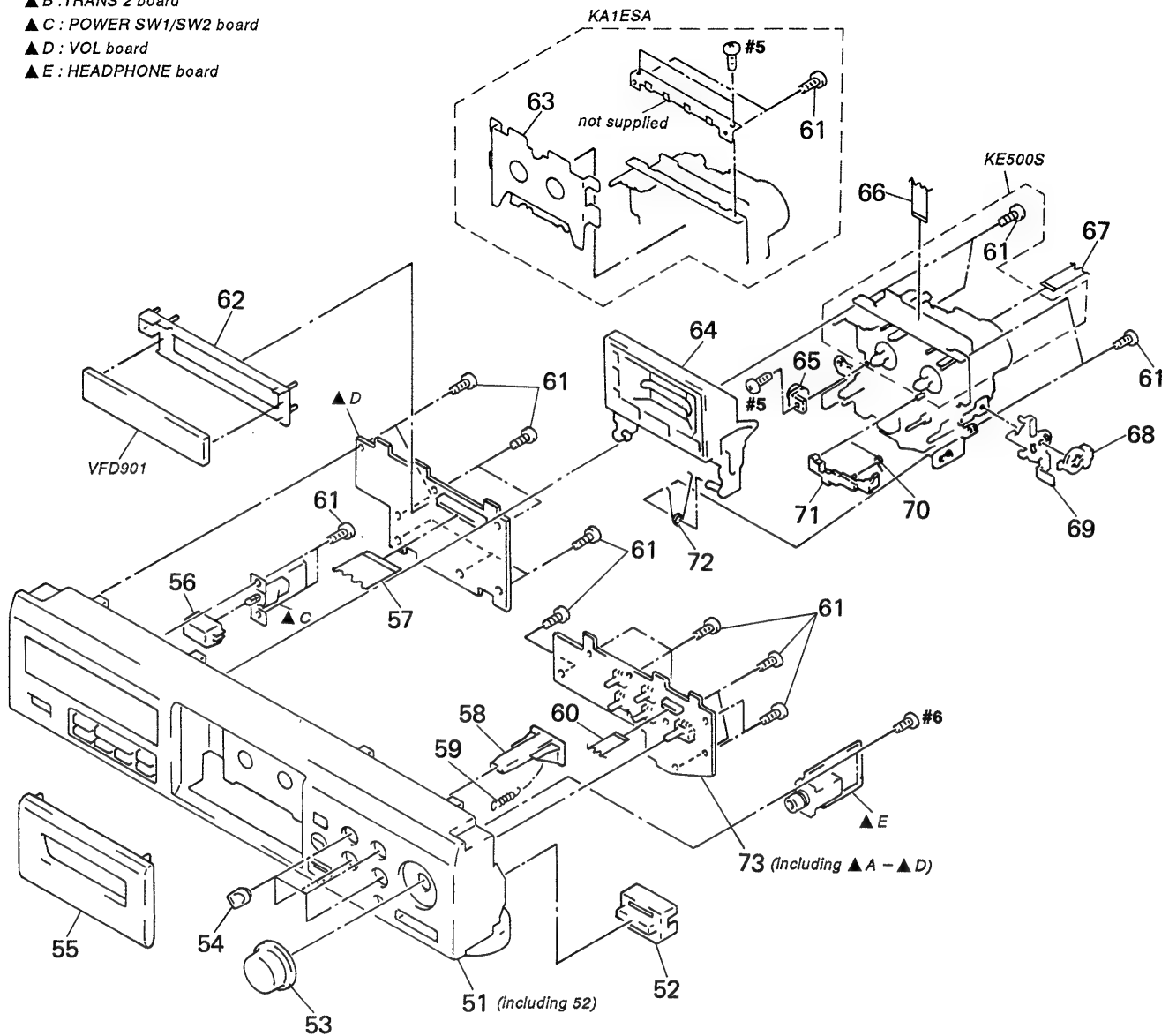
- ▲ A : TRANS 1 board
- ▲ B : TRANS 2 board
- ▲ C : POWER SW1/SW2 board
- ▲ D : VOL board
- ▲ E : HEADPHONE board



<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
* 1	3-931-432-01	CASE (410726)		* 9	3-346-265-31	HOLDER, PC BOARD	
2	3-704-366-01	SCREW (CASE) (M3X8)		△ 10	1-551-188-XX	CORD, POWER (E)	
* 3	A-2007-481-A	DOLBY-S BOARD, COMPLETE		△ 10	1-558-945-21	CORD, POWER (POLAR.SPT-1)(US,CND)	
* 4	A-2007-530-A	MAIN BOARD, COMPLETE (KA1ESA)		△ 10	1-575-651-21	CORD, POWER (AEP,G,SP,MY)	
* 4	A-2007-531-A	MAIN BOARD, COMPLETE (KE500S:US,E,AUS)		△ 10	1-696-586-11	CORD, POWER (UK)	
* 4	A-2007-533-A	MAIN BOARD, COMPLETE(KE500S:AEP,UK,G,SP,MY)		△ 10	1-696-845-11	CORD, POWER (AUS)	
* 5	3-703-244-00	BUSHING (2104),CORD (AEP,UK,G,AUS,SP,MY)		△ 10	1-751-523-11	CORD, POWER (UK)	
5	3-703-571-11	BUSHING (S) (4516), CORD (US,CND,E)		△ 11	1-569-007-11	ADAPTER, CONVERSION 2P (E)	
* 6	3-933-308-31	PANEL, BACK (KE500S:US)		12	4-956-370-12	BAND, PLUG FIXED (UK,AUS)	
* 6	3-933-308-41	PANEL, BACK (KE500S:AEP,G,SP,MY)		13	3-923-762-11	HOLDER (TR)	
* 6	3-933-308-51	PANEL, BACK (KE500S:UK)		* 14	3-356-925-01	HEAT SINK	
* 6	3-933-308-61	PANEL, BACK (KE500S:E)		△ S701	1-692-155-11	SELECTOR, POWER VOLTAGE (VOLTAGE SELECTOR) (E)	
* 6	3-933-308-91	PANEL, BACK (KE500S:AUS)		△ T701	1-429-611-11	TRANSFORMER, POWER (US,CND)	
* 6	3-933-309-01	PANEL, BACK (KA1ESA)		△ T701	1-429-612-11	TRANSFORMER, POWER (EXCEPT US,CND,AUS,E)	
7	X-4947-207-1	FOOT ASSY (F50150S) (EXCEPT US,CND)		△ T701	1-429-613-11	TRANSFORMER, POWER (E)	
7	X-4947-208-1	FOOT ASSY (F50150S) (US,CND)		△ T701	1-429-659-11	TRANSFORMER, POWER (AUS)	
* 8	A-2004-600-A	CHASSIS ASSY (KA1ESA)					

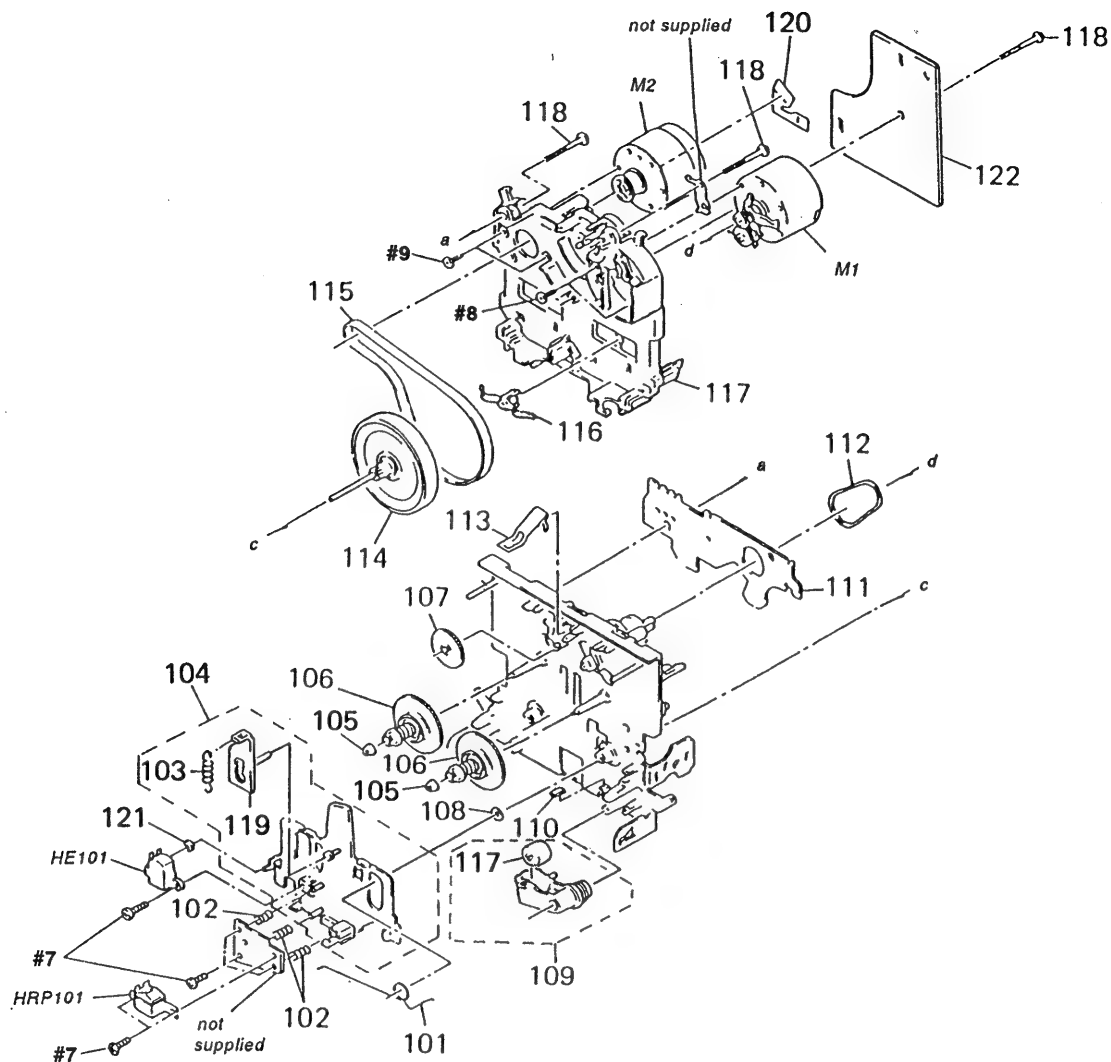
6-2. FRONT PANEL SECTION

- ▲ A : TRANS 1 board
 ▲ B : TRANS 2 board
 ▲ C : POWER SW1/SW2 board
 ▲ D : VOL board
 ▲ E : HEADPHONE board



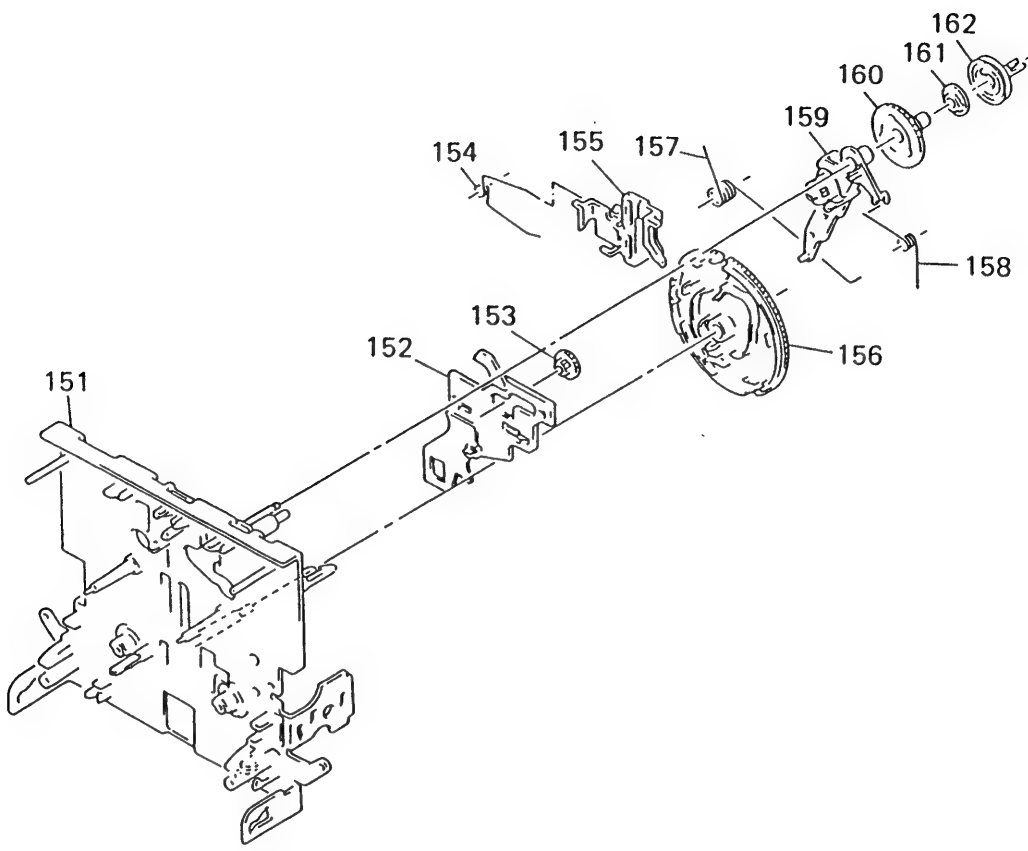
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	X-3371-677-2	PANEL ASSY, FRONT (EXCEPT KA1ESA, KE500S: US)		63	3-367-711-01	RETAINER, CASSETTE (KA1ESA)	
51	X-3371-678-2	PANEL ASSY, FRONT (KE500S:US)		64	X-3368-119-1	HOLDER (R) ASSY, CASSETTE	
51	X-3371-681-2	PANEL ASSY, FRONT (KA1ESA)		65	3-354-963-01	DAMPER	
52	3-933-296-01	BUTTON (MONITOR)		66	1-769-916-11	WIRE (FLAT TYPE) (9 CORE)	
53	3-933-300-11	KNOB (REC)		67	1-769-878-11	WIRE (FLAT TYPE) (7 CORE)	
54	3-933-299-01	KNOB (DIA. 12)		68	3-354-957-01	JOINT (LOCK LEVER)	
55	X-3371-684-2	LID ASSY, CASSETTE (KE500S)		* 69	3-354-954-01	LEVER (LOCK LEVER R)	
55	X-3371-686-1	LID ASSY, CASSETTE (KA1ESA)		70	3-354-962-01	SPRING (EJ SAFTY SPRING R)	
56	3-931-429-01	BUTTON (POWER)		71	3-354-956-01	LEVER (EJ SAFTY LEVER R)	
57	1-777-109-11	WIRE (FLAT TYPE) (39 CORE)		72	3-354-960-01	SPRING (LOADING R), TORSION	
58	3-933-295-01	BUTTON (EJECT)		* 73	A-2007-529-A	PANEL BOARD, COMPLETE (US,CND,AUS)	
59	3-937-169-01	SPRING, TENSION		* 73	A-2007-532-A	PANEL BOARD, COMPLETE(AEP,UK,G,SP,MY)	
60	1-777-110-11	WIRE (FLAT TYPE) (6 CORE)		* 73	A-2007-534-A	PANEL BOARD, COMPLETE (E)	
61	4-951-620-01	SCREW (2.6X8), +BVTP		VFD901	1-517-163-11	INDICATOR TUBE, FLUORESCENT	
* 62	3-386-245-11	HOLDER (FL)					

6-3. MECHANISM SECTION 1
(TCM-190VB14)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	3-911-014-01	SPRING, TORSION		114	X-3368-368-1	FLYWHEEL (FWD) COMPLETE ASSY	
102	3-356-659-11	SPRING (RPH), COMPRESSION		115	3-937-332-01	BELT (CAPSTAN)	
103	3-363-868-01	SPRING (HEAD CHASSIS), TENSION		116	3-575-321-00	RETAINER, THRUST, CAPSTAN	
* 104	X-3369-024-1	SLIDER (HEAD CHASSIS) ASSY		117	3-355-808-02	PINCH ROLLER	
105	3-362-308-01	CAP (REEL)		118	3-359-414-01	SCREW (+PTPWH 2X23)	
106	X-3366-971-1	TABLE ASSY (B), REEL		* 119	X-3368-865-1	SLIDER (LIMITER) ASSY	
107	3-359-424-01	GEAR (REV GEAR)		120	1-638-983-11	MOTOR FLEXIBLE BOARD	
108	3-356-713-01	WASHER		121	3-701-437-11	WASHER	
109	X-3366-047-1	LEVER (PINCH F) ASSY		* 122	1-634-840-21	AUDIO BOARD	
110	3-359-469-01	SPACER		HE101	1-543-673-11	HEAD, MAGNETIC (ERASE)	
* 111	1-634-841-14	SW A BOARD		HRP101	1-543-733-11	HEAD, MAGNETIC (RECORD/PLAYBACK)	
112	3-359-466-01	BELT (FR), SQUARE		M1	X-3363-501-2	MOTOR ASSY (REEL)	
113	3-359-430-01	SPRING (CASSETTE RETAINER), LEAF		M2	X-3368-855-1	MOTOR ASSY (CAPSTAN)	

6-4. MECHANISM SECTION 2
(TCM-190VB14)



<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
151	X-3368-719-2	CHASSIS(ONE)ASSY,MECHANICAL		157	3-359-456-01	SPRING(TRIGGER SPRING),TORSION	
152	3-359-415-11	SLIDER (TRIGGER SLIDER)		158	3-924-185-11	SPRING (FR ARM), TORSION	
153	3-359-448-01	GEAR (TRIGGER)		159	X-3366-569-1	ARM ASSY, FR	
154	3-359-454-01	SPRING, TORSION		160	3-359-419-11	GEAR (FR GEAR)	
155	3-359-429-11	SLIDER (BRAKE PLATE)		161	3-359-421-01	CLUTCH (REEL DISK)	
156	3-936-483-01	GEAR (CAM GEAR)		162	3-359-418-01	PULLEY (FR PULLEY)	

SECTION 7

ELECTRICAL PARTS LIST

AUDIO

DOLBY S

NOTE :

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms
METAL : Metal-film resistor
METAL OXIDE :Metal oxide-film resistor
F : nonflammable
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

● SEMICONDUCTORS

In each case, u : μ , for example :

uA..... : μ A..... , uPA..... : μ PA.....
uPB..... : μ PB..... , uPC..... : μ PC.....
uPD..... : μ PD.....

● CAPACITORS

uF : μ F

● COILS

uH : μ H

● Abbreviation

CND : Canadian
AUS : Australian
MY : Malaysia

SP : Singapore
G : German

The components identified by mark Δ or dotted line with mark Δ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description	Remark				Ref. No.	Part No.	Description	Remark			
*	1-634-840-21	AUDIO BOARD *****					C16	1-163-038-91	CERAMIC CHIP	0.1uF		25V	
		< CAPACITOR >					C17	1-124-465-00	ELECT	0.47uF	20%	50V	
C71	1-124-903-11	ELECT	1uF	20%	50V	C18	1-163-038-91	CERAMIC CHIP	0.1uF		25V		
C72	1-124-903-11	ELECT	1uF	20%	50V	C19	1-164-222-11	CERAMIC CHIP	0.22uF		25V		
		< CONNECTOR >					C20	1-163-035-00	CERAMIC CHIP	0.047uF		50V	
							C21	1-164-717-11	CERAMIC CHIP	0.0082uF	5%	50V	
* CNP71	1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P					C22	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V	
CNP72	1-764-902-11	CONNECTOR, FFC/FPC 4P					C23	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	
* CNP73	1-568-826-11	SOCKET, CONNECTOR 7P					C24	1-137-442-11	FILM	0.039uF	5%	50V	
		< RESISTOR >					C25	1-136-165-00	FILM	0.1uF	5%	50V	
							C26	1-137-372-11	FILM	0.022uF	5%	50V	
R71	1-249-406-11	CARBON	120	5%	1/4W	C28	1-163-038-91	CERAMIC CHIP	0.1uF		25V		
		< VARIABLE RESISTOR >							< CONNECTOR >				
RV71	1-241-761-11	RES, ADJ, CARBON 1K (TEPE SPEED)					CN1	1-695-092-11	SOCKET, CONNECTOR 7P				
*****									< IC >				
*	A-2007-481-A	DOLBY S BOARD, COMPLETE *****					IC1	8-752-076-30	IC CXA1917AM-T6				
		< CAPACITOR >							< JUMPER RESISTOR >				
C1	1-136-165-00	FILM	0.1uF	5%	50V	J1	1-216-296-00	METAL CHIP	0	5%	1/8W		
C2	1-163-012-00	CERAMIC CHIP	0.0018uF	10%	50V	J2	1-216-296-00	METAL CHIP	0	5%	1/8W		
C3	1-163-012-00	CERAMIC CHIP	0.0018uF	10%	50V	J3	1-216-296-00	METAL CHIP	0	5%	1/8W		
C4	1-164-222-11	CERAMIC CHIP	0.22uF		25V			< RESISTOR >					
C5	1-136-165-00	FILM	0.1uF	5%	50V	R1	1-216-685-11	METAL CHIP	27K	0.5%	1/10W		
		< JUMPER RESISTOR >					R2	1-208-811-11	METAL GLAZE	16K	2%	1/10W	
C6	1-136-165-00	FILM	0.1uF	5%	50V	R3	1-208-791-11	METAL GLAZE	2.4K	2%	1/10W		
C7	1-137-372-11	FILM	0.022uF	5%	50V	R4	1-208-799-11	METAL GLAZE	5.1K	2%	1/10W		
C8	1-164-222-11	CERAMIC CHIP	0.22uF		25V	R5	1-216-689-11	METAL CHIP	39K	0.5%	1/10W		
C9	1-126-301-11	ELECT	1uF	20%	50V								
C10	1-137-442-11	FILM	0.039uF	5%	50V	R6	1-216-689-11	METAL CHIP	39K	0.5%	1/10W		
							R7	1-216-615-11	METAL CHIP	33	0.5%	1/10W	
C11	1-163-007-11	CERAMIC CHIP	680PF	10%	50V	R8	1-208-462-41	METAL GLAZE	10K	2%	1/10W		
C12	1-164-717-11	CERAMIC CHIP	0.0082uF	5%	50V	R9	1-208-812-11	METAL GLAZE	18K	2%	1/10W		
C13	1-163-038-91	CERAMIC CHIP	0.1uF		25V	R10	1-216-615-11	METAL CHIP	33	0.5%	1/10W		
C14	1-124-465-00	ELECT	0.47uF	20%	50V								
C15	1-164-222-11	CERAMIC CHIP	0.22uF		25V	R11	1-216-619-11	METAL CHIP	47	0.5%	1/10W		

DOLBY S

MAIN

HEADPHONE

Ref. No.	Part No.	Description	Remark		
R12	1-216-684-11	METAL CHIP	24K	0.5%	1/10W
R13	1-216-615-11	METAL CHIP	33	0.5%	1/10W
R14	1-216-619-11	METAL CHIP	47	0.5%	1/10W
R15	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R16	1-216-678-11	METAL CHIP	13K	0.5%	1/10W
R17	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W
R18	1-208-462-41	METAL GLAZE	10K	2%	1/10W
R19	1-208-462-41	METAL GLAZE	10K	2%	1/10W
R20	1-216-689-11	METAL CHIP	39K	0.5%	1/10W

* A-2007-530-A MAIN BOARD, COMPLETE (KA1ESA)
 * A-2007-531-A MAIN BOARD, COMPLETE (KE500S:US,E,AUS)
 * A-2007-533-A MAIN BOARD, COMPLETE (AEP,UK,G,SP,MY)

HEADPHONE BOARD

* 3-356-925-01 HEAT SINK
 3-923-762-11 HOLDER (TR)
 7-682-548-04 SCREW +BVTT 3X8 (S)

< CAPACITOR >

C101	1-126-965-11	ELECT	22uF	20%	50V
C102	1-136-495-11	FILM	0.068uF	5%	50V
C103	1-136-165-00	FILM	0.1uF	5%	50V
C104	1-126-964-11	ELECT	10uF	20%	50V
C105	1-163-014-00	CERAMIC CHIP	0.0027uF	5%	50V
C106	1-126-963-11	ELECT	4.7uF	20%	50V
C111	1-126-963-11	ELECT	4.7uF	20%	50V
C112	1-136-173-00	FILM	0.47uF	5%	50V
C113	1-126-964-11	ELECT	10uF	20%	50V
C114	1-137-366-11	FILM	0.0022uF	5%	50V
C118	1-124-902-00	ELECT	0.47uF	20%	50V
C121	1-107-597-11	CERAMIC	22PF	5%	500V
C122	1-137-428-11	FILM	180PF	5%	50V
C123	1-137-431-11	FILM	560PF	5%	50V
C124	1-101-810-00	CERAMIC	100PF	5%	500V
C125	1-136-803-11	FILM	560PF	5%	630V
C126	1-136-161-00	FILM	0.047uF	5%	50V
C127	1-136-157-00	FILM	0.022uF	5%	50V
C128	1-136-153-00	FILM	0.01uF	5%	50V
C141	1-124-925-11	ELECT	2.2uF	20%	50V
C142	1-136-165-00	FILM	0.1uF	5%	50V
C143	1-136-495-11	FILM	0.068uF	5%	50V
C151	1-163-127-00	CERAMIC CHIP	270PF	5%	50V
C152	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C153	1-104-665-11	ELECT	100uF	20%	25V
C154	1-126-968-11	ELECT	100uF	20%	50V
C155	1-136-157-00	FILM	0.022uF	5%	50V
C156	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C157	1-126-964-11	ELECT	10uF	20%	50V
C158	1-136-158-00	FILM	0.027uF	5%	50V

Ref. No.	Part No.	Description	Remark		
C159	1-102-518-11	CERAMIC	33PF	5%	50V
C160	1-137-434-11	FILM	0.0018uF	5%	50V
C161	1-137-434-11	FILM	0.0018uF	5%	50V
C181	1-124-925-11	ELECT	2.2uF	20%	100V
C191	1-126-963-11	ELECT	4.7uF	20%	50V
C201	1-126-965-11	ELECT	22uF	20%	50V
C202	1-136-495-11	FILM	0.068uF	5%	50V
C203	1-136-165-00	FILM	0.1uF	5%	50V
C204	1-126-964-11	ELECT	10uF	20%	50V
C205	1-163-014-00	CERAMIC CHIP	0.0027uF	5%	50V
C206	1-126-963-11	ELECT	4.7uF	20%	50V
C211	1-126-963-11	ELECT	4.7uF	20%	50V
C212	1-136-173-00	FILM	0.47uF	5%	50V
C213	1-126-964-11	ELECT	10uF	20%	50V
C214	1-137-366-11	FILM	0.0022uF	5%	50V
C218	1-124-902-00	ELECT	0.47uF	20%	50V
C221	1-107-597-11	CERAMIC	22PF	5%	500V
C222	1-137-428-11	FILM	180PF	5%	50V
C223	1-137-431-11	FILM	560PF	5%	50V
C224	1-101-810-00	CERAMIC	100PF	5%	500V
C225	1-136-803-11	FILM	560PF	5%	630V
C226	1-136-161-00	FILM	0.047uF	5%	50V
C227	1-136-157-00	FILM	0.022uF	5%	50V
C228	1-136-153-00	FILM	0.01uF	5%	50V
C241	1-124-925-11	ELECT	2.2uF	20%	50V
C242	1-136-165-00	FILM	0.1uF	5%	50V
C243	1-136-495-11	FILM	0.068uF	5%	50V
C251	1-163-127-00	CERAMIC CHIP	270PF	5%	50V
C252	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C253	1-104-665-11	ELECT	100uF	20%	25V
C254	1-126-968-11	ELECT	100uF	20%	50V
C255	1-136-157-00	FILM	0.022uF	5%	50V
C256	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C257	1-126-964-11	ELECT	10uF	20%	50V
C258	1-136-158-00	FILM	0.027uF	5%	50V
C259	1-102-518-11	CERAMIC	33PF	5%	50V
C260	1-137-434-11	FILM	0.0018uF	5%	50V
C261	1-137-434-11	FILM	0.0018uF	5%	50V
C271	1-126-964-11	ELECT	10uF	20%	50V
C272	1-124-925-11	ELECT	2.2uF	20%	100V
C281	1-124-925-11	ELECT	2.2uF	20%	100V
C291	1-126-963-11	ELECT	4.7uF	20%	50V
C301	1-126-965-11	ELECT	22uF	20%	50V
C302	1-126-965-11	ELECT	22uF	20%	50V
C303	1-124-903-11	ELECT	1uF	20%	50V
C311	1-124-903-11	ELECT	1uF	20%	50V
C319	1-126-964-11	ELECT	10uF	20%	50V
C321	1-126-967-11	ELECT	47uF	20%	35V
C322	1-126-967-11	ELECT	47uF	20%	35V
C323	1-107-584-11	CERAMIC	4PF	0.25PF	500V
C324	1-136-558-11	FILM	0.0039uF	5%	630V
C325	1-126-965-11	ELECT	22uF	20%	50V

Ref. No.	Part No.	Description	Remark		
C326	1-106-359-00	MYLAR	4700PF	5%	200V
C327	1-106-349-00	MYLAR	0.0018uF	5%	100V
C328	1-106-349-00	MYLAR	0.0018uF	5%	100V
C343	1-124-925-11	ELECT	2.2uF	20%	100V
C351	1-126-965-11	ELECT	22uF	20%	50V
C352	1-126-965-11	ELECT	22uF	20%	50V
C371	1-130-494-11	MYLAR	0.082uF	5%	50V
C372	1-137-436-11	FILM	0.0039uF	5%	50V
C386	1-126-923-11	ELECT	220uF	20%	10V
C387	1-126-923-11	ELECT	220uF	20%	10V
C421	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C422	1-163-033-91	CERAMIC CHIP	0.022uF		50V
C423	1-163-111-00	CERAMIC CHIP	56PF	5%	50V
C424	1-124-925-11	ELECT	2.2uF	20%	100V
C431	1-126-916-11	ELECT	1000uF	20%	6.3V
C701	1-126-768-11	ELECT	2200uF	20%	16V
C702	1-126-936-11	ELECT	3300uF	20%	16V
C703	1-104-664-11	ELECT	47uF	20%	25V
C704	1-126-027-11	ELECT	1000uF	20%	25V
C705	1-126-027-11	ELECT	1000uF	20%	25V
C706	1-126-968-11	ELECT	100uF	20%	50V
C707	1-126-964-11	ELECT	10uF	20%	50V
C708	1-126-937-11	ELECT	4700uF	20%	16V
C709	1-126-964-11	ELECT	10uF	20%	50V
C710	1-126-963-11	ELECT	4.7uF	20%	50V
C711	1-126-967-11	ELECT	47uF	20%	35V
C712	1-126-927-11	ELECT	2200uF	20%	10V
C713	1-124-564-11	ELECT	4700uF	20%	25V
C715	1-126-964-11	ELECT	10uF	20%	50V
C716	1-126-768-11	ELECT	2200uF	20%	16V
C805	1-136-165-00	FILM	0.1uF	5%	50V
C806	1-136-165-00	FILM	0.1uF	5%	50V
C807	1-163-033-91	CERAMIC CHIP	0.022uF		50V
C808	1-163-033-91	CERAMIC CHIP	0.022uF		50V
C809	1-124-902-00	ELECT	0.47uF	20%	50V
C811	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C813	1-124-902-00	ELECT	0.47uF	20%	50V
C830	1-136-165-00	FILM	0.1uF	5%	50V
C831	1-126-933-11	ELECT	100uF	20%	10V
< CONNECTOR >					
CN321	1-506-468-11	PIN, CONNECTOR 3P			
CN701	1-766-272-11	PIN, CONNECTOR (PC BOARD) 10P			
CN801	1-568-825-11	CONNECTOR, FFC/FPC 6P			
CN802	1-568-826-11	CONNECTOR, FFC/FPC 7P			
CN803	1-750-414-11	CONNECTOR, FFC/FPC 9P			
* CN804	1-568-954-11	PIN, CONNECTOR 5P (US,E,AUS)			
CN805	1-778-065-11	SOCKET, CONNECTOR 39P			
CNP311	1-764-328-11	PIN, CONNECTOR (PCB)(V TYPE)5P			
* CNP321	1-560-062-00	PIN, CONNECTOR 4P			
* CNP322	1-560-060-00	PIN, CONNECTOR 2P			

Ref. No.	Part No.	Description	Remark
* CNP351	1-560-062-00	PIN, CONNECTOR 4P	
* CNP376	1-568-954-11	PIN, CONNECTOR 5P	
* CNP398	1-691-462-11	PIN, CONNECTOR (PC BOARD) 6P	
CP101	1-695-087-11	PIN, CONNECTOR (PC BOARD) 7P	
CP141	1-695-087-11	PIN, CONNECTOR (PC BOARD) 7P	
CP201	1-695-087-11	PIN, CONNECTOR (PC BOARD) 7P	
CP241	1-695-087-11	PIN, CONNECTOR (PC BOARD) 7P	
< DIODE >			
D151	8-719-019-12	DIODE ZSML-5.6X-T1	
D181	8-719-988-62	DIODE 1SS355	
D182	8-719-988-62	DIODE 1SS355	
D183	8-719-019-12	DIODE ZSML-5.6X-T1	
D251	8-719-019-12	DIODE ZSML-5.6X-T1	
D281	8-719-988-62	DIODE 1SS355	
D282	8-719-988-62	DIODE 1SS355	
D283	8-719-019-12	DIODE ZSML-5.6X-T1	
D301	8-719-988-62	DIODE 1SS355	
D311	8-719-988-62	DIODE 1SS355	
D312	8-719-988-62	DIODE 1SS355	
D313	8-719-988-62	DIODE 1SS355	
D314	8-719-988-62	DIODE 1SS355	
D315	8-719-988-62	DIODE 1SS355	
D321	8-719-988-62	DIODE 1SS355	
D322	8-719-988-62	DIODE 1SS355	
D341	8-719-988-62	DIODE 1SS355	
D342	8-719-988-62	DIODE 1SS355	
D371	8-719-988-62	DIODE 1SS355	
D372	8-719-988-62	DIODE 1SS355	
D373	8-719-988-62	DIODE 1SS355	
D431	8-719-988-62	DIODE 1SS355	
D701	8-719-200-02	DIODE 10E2	
D702	8-719-200-02	DIODE 10E2	
D703	8-719-200-02	DIODE 10E2	
D704	8-719-200-02	DIODE 10E2	
D705	8-719-200-02	DIODE 10E2	
D706	8-719-988-62	DIODE 1SS355 (US,CND,E,AUS)	
D707	8-719-988-62	DIODE 1SS355	
D708	8-719-988-62	DIODE 1SS355 (US,CND,E,AUS)	
D709	8-719-019-12	DIODE ZSML-5.6X-T1	
D710	8-719-019-12	DIODE ZSML-5.6X-T1	
D711	8-719-019-12	DIODE ZSML-5.6X-T1	
D712	8-719-200-02	DIODE 10E2	
D715	8-719-988-62	DIODE 1SS355 (US,CND,E,AUS)	
D716	8-719-019-46	DIODE ZSML-12Z-T1	
D717	8-719-988-62	DIODE 1SS355	
D718	8-719-019-25	DIODE ZSML-7.5Y-T1	
D719	8-719-019-18	DIODE ZSML-6.2Z-T1	
D720	8-719-988-62	DIODE 1SS355 (US,CND,E,AUS)	
D721	8-719-988-62	DIODE 1SS355	

MAIN

HEADPHONE

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
D722	8-719-025-03	DIODE RBA-402-SL		Q201	8-729-421-22	TRANSISTOR UN2211	
D723	8-719-019-12	DIODE ZSML-5.6X-T1		Q211	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D724	8-719-988-62	DIODE 1SS355					
D801	8-719-988-62	DIODE 1SS355		Q212	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
				Q251	8-729-217-03	TRANSISTOR 2SK170	
D802	8-719-988-62	DIODE 1SS355		Q252	8-729-217-03	TRANSISTOR 2SK170	
D803	8-719-988-62	DIODE 1SS355		Q253	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D804	8-719-988-62	DIODE 1SS355		Q254	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
		< IC >					
IC301	8-752-066-36	IC CXA1563M		Q291	8-729-922-37	TRANSISTOR 2SD2144S	
IC304	8-759-106-56	IC uPC1297CA		Q311	8-729-421-19	TRANSISTOR UN2213	
IC311	8-752-070-68	IC CXA1598M		Q312	8-729-421-19	TRANSISTOR UN2213	
IC341	8-752-066-36	IC CXA1563M		Q313	8-729-421-19	TRANSISTOR UN2213	
IC351	8-759-636-55	IC M5218AFP		Q314	8-729-421-19	TRANSISTOR UN2213	
IC371	8-759-100-96	IC uPC4558G2		Q321	8-729-421-19	TRANSISTOR UN2213	
IC372	8-759-100-96	IC uPC4558G2		Q322	8-729-216-22	TRANSISTOR 2SA1162-G	
IC381	8-759-100-96	IC uPC4558G2		Q323	8-729-421-19	TRANSISTOR UN2213	
IC385	8-759-100-96	IC uPC4558G2		Q324	8-729-421-19	TRANSISTOR UN2213	
IC391	8-759-300-71	IC HD14053BFP		Q325	8-729-421-19	TRANSISTOR UN2213	
IC395	8-759-636-55	IC M5218AFP		Q326	8-729-194-57	TRANSISTOR 2SC945-P	
IC421	8-759-100-96	IC uPC4558G2		Q327	8-729-194-57	TRANSISTOR 2SC945-P	
IC701	8-759-100-96	IC uPC4558G2		Q341	8-729-421-19	TRANSISTOR UN2213	
IC801	8-759-422-06	IC M38172M4-171FP		Q351	8-729-230-45	TRANSISTOR 2SC2458-YGR	
IC803	8-759-973-95	IC BA6219B		Q352	8-729-821-04	TRANSISTOR 2SA1317-STU	
IC804	8-759-165-82	IC PST600E-T		Q371	8-729-107-43	TRANSISTOR 2SC3624-L18	
		< JACK >		Q372	8-729-107-43	TRANSISTOR 2SC3624-L18	
				Q373	8-729-107-43	TRANSISTOR 2SC3624-L18	
J385	1-568-519-41	JACK, LARGE TYPE (PHONES)		Q391	8-729-421-19	TRANSISTOR UN2213	
		< COIL >		Q431	8-729-216-22	TRANSISTOR 2SA1162-G	
L121	1-410-780-11	INDUCTOR 27mH		Q432	8-729-901-06	TRANSISTOR DTA144EK	
L122	1-410-778-11	INDUCTOR 18mH		Q433	8-729-421-19	TRANSISTOR UN2213	
L221	1-410-780-11	INDUCTOR 27mH		Q702	8-729-900-80	TRANSISTOR DTC114ES (US,CND,E,AUS)	
L222	1-410-778-11	INDUCTOR 18mH		Q703	8-729-141-83	TRANSISTOR 2SB1094-LK	
				Q704	8-729-209-15	TRANSISTOR 2SD2012	
		< FILTER >					
LPF101	1-236-147-11	FILTER, LOW PASS		Q705	8-729-209-15	TRANSISTOR 2SD2012	
LPF201	1-236-147-11	FILTER, LOW PASS		Q706	8-729-119-78	TRANSISTOR 2SC403SP-51	
				Q707	8-729-900-80	TRANSISTOR DTC114ES (US,CND,E,AUS)	
		< JACK >		Q708	8-729-141-83	TRANSISTOR 2SB1094-LK	
				Q709	8-729-119-78	TRANSISTOR 2SC403SP-51	
PJ395	1-770-614-11	JACK, PIN 4P (LINE IN/OUT)					
		< TRANSISTOR >		Q710	8-729-119-76	TRANSISTOR 2SA1175-HFE	
				Q711	8-729-140-04	TRANSISTOR 2SB1116A-L	
Q101	8-729-421-22	TRANSISTOR UN2211		Q712	8-729-224-63	TRANSISTOR 2SK246-BL	
Q111	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q722	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q112	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q802	8-729-421-19	TRANSISTOR UN2213	
Q151	8-729-217-03	TRANSISTOR 2SK170					
Q152	8-729-217-03	TRANSISTOR 2SK170		Q803	8-729-901-06	TRANSISTOR DTA144EK	
				Q804	8-729-901-06	TRANSISTOR DTA144EK	
Q153	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q805	8-729-421-19	TRANSISTOR UN2213	
Q154	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q806	8-729-421-22	TRANSISTOR UN2211	
Q191	8-729-922-37	TRANSISTOR 2SD2144S		Q807	8-729-421-22	TRANSISTOR UN2211	
				Q808	8-729-421-22	TRANSISTOR UN2211	
				Q809	8-729-421-22	TRANSISTOR UN2211	
				Q810	8-729-801-84	TRANSISTOR 2SB1013-4	
				Q812	8-729-216-22	TRANSISTOR 2SA1162-G	

Ref. No.	Part No.	Description				Remark	Ref. No.	Part No.	Description				Remark
< RESISTOR >							R202	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	
							R203	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R101	1-216-097-91	METAL GLAZE	100K	5%	1/10W		R204	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R102	1-216-071-00	METAL CHIP	8.2K	5%	1/10W		R205	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R103	1-216-061-00	METAL CHIP	3.3K	5%	1/10W		R211	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R104	1-216-105-91	METAL GLAZE	220K	5%	1/10W								
R105	1-216-049-91	METAL GLAZE	1K	5%	1/10W		R212	1-216-073-00	METAL CHIP	10K	5%	1/10W	
							R213	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R111	1-216-065-00	METAL CHIP	4.7K	5%	1/10W		R214	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R112	1-216-073-00	METAL CHIP	10K	5%	1/10W		R216	1-216-058-00	METAL GLAZE	2.4K	5%	1/10W	
R113	1-216-061-00	METAL CHIP	3.3K	5%	1/10W		R217	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R114	1-216-057-00	METAL CHIP	2.2K	5%	1/10W								
R116	1-216-058-00	METAL GLAZE	2.4K	5%	1/10W		R218	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
							R221	1-216-058-00	METAL GLAZE	2.4K	5%	1/10W	
R117	1-216-073-00	METAL CHIP	10K	5%	1/10W		R222	1-216-101-00	METAL CHIP	150K	5%	1/10W	
R118	1-216-089-91	METAL GLAZE	47K	5%	1/10W		△ R223	1-219-153-11	FUSIBLE	10	5%	1/4W	F
R121	1-216-058-00	METAL GLAZE	2.4K	5%	1/10W		R224	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R122	1-216-101-00	METAL CHIP	150K	5%	1/10W								
△ R123	1-219-153-11	FUSIBLE	10	5%	1/4W	F	R225	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
							R241	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R124	1-216-085-00	METAL CHIP	33K	5%	1/10W		R251	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R125	1-216-067-00	METAL CHIP	5.6K	5%	1/10W		R252	1-216-029-00	METAL CHIP	150	5%	1/10W	
R141	1-216-097-91	METAL GLAZE	100K	5%	1/10W		R253	1-216-041-00	METAL CHIP	470	5%	1/10W	
R151	1-216-097-91	METAL GLAZE	100K	5%	1/10W								
R152	1-216-029-00	METAL CHIP	150	5%	1/10W		R254	1-216-066-00	METAL CHIP	5.1K	5%	1/10W	
							R255	1-216-066-00	METAL CHIP	5.1K	5%	1/10W	
R153	1-216-041-00	METAL CHIP	470	5%	1/10W		R256	1-216-046-00	METAL CHIP	750	5%	1/10W	
R154	1-216-066-00	METAL CHIP	5.1K	5%	1/10W		R257	1-216-046-00	METAL CHIP	750	5%	1/10W	
R155	1-216-066-00	METAL CHIP	5.1K	5%	1/10W		R258	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R156	1-216-046-00	METAL CHIP	750	5%	1/10W								
R157	1-216-046-00	METAL CHIP	750	5%	1/10W		R259	1-216-021-00	METAL CHIP	68	5%	1/10W	
							R260	1-216-068-00	METAL CHIP	6.2K	5%	1/10W	
R158	1-216-025-91	METAL GLAZE	100	5%	1/10W		R261	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R159	1-216-021-00	METAL CHIP	68	5%	1/10W		R262	1-216-100-00	METAL GLAZE	130K	5%	1/10W	
R160	1-216-068-00	METAL CHIP	6.2K	5%	1/10W		R263	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	
R161	1-216-081-00	METAL CHIP	22K	5%	1/10W								
R162	1-216-100-00	METAL GLAZE	130K	5%	1/10W		R264	1-216-073-00	METAL CHIP	10K	5%	1/10W	
							R265	1-216-056-00	METAL GLAZE	2K	5%	1/10W	
R163	1-216-055-00	METAL CHIP	1.8K	5%	1/10W		R266	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R164	1-216-073-00	METAL CHIP	10K	5%	1/10W		R271	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R165	1-216-056-00	METAL GLAZE	2K	5%	1/10W		R272	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R166	1-216-057-00	METAL CHIP	2.2K	5%	1/10W								
R181	1-216-083-00	METAL CHIP	27K	5%	1/10W		R273	1-216-088-00	METAL CHIP	43K	5%	1/10W	
							R274	1-216-066-00	METAL CHIP	5.1K	5%	1/10W	
R182	1-216-035-00	METAL CHIP	270	5%	1/10W		R281	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R183	1-216-092-00	METAL GLAZE	62K	5%	1/10W		R282	1-216-035-00	METAL CHIP	270	5%	1/10W	
R185	1-216-053-00	METAL CHIP	1.5K	5%	1/10W		R283	1-216-092-00	METAL GLAZE	62K	5%	1/10W	
R186	1-216-061-00	METAL CHIP	3.3K	5%	1/10W								
R187	1-216-033-00	METAL CHIP	220	5%	1/10W		R285	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
							R286	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R188	1-216-067-00	METAL CHIP	5.6K	5%	1/10W		R287	1-216-033-00	METAL CHIP	220	5%	1/10W	
R191	1-216-097-91	METAL GLAZE	100K	5%	1/10W		R288	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R192	1-216-082-00	METAL GLAZE	24K	5%	1/10W		R291	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R193	1-216-073-00	METAL CHIP	10K	5%	1/10W								
R194	1-216-057-00	METAL CHIP	2.2K	5%	1/10W		R292	1-216-082-00	METAL GLAZE	24K	5%	1/10W	
							R293	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R195	1-216-079-00	METAL CHIP	18K	5%	1/10W		R294	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R196	1-216-057-00	METAL CHIP	2.2K	5%	1/10W		R295	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R197	1-216-049-91	METAL GLAZE	1K	5%	1/10W		R296	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R198	1-216-081-00	METAL CHIP	22K	5%	1/10W								
R201	1-216-097-91	METAL GLAZE	100K	5%	1/10W		R297	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
							R298	1-216-081-00	METAL CHIP	22K	5%	1/10W	

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MAIN HEADPHONE

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R301	1-208-813-11	METAL GLAZE	20K 2% 1/10W	R417	1-216-083-00	METAL CHIP	27K 5% 1/10W
R302	1-216-081-00	METAL CHIP	22K 5% 1/10W	R418	1-216-081-00	METAL CHIP	22K 5% 1/10W
R303	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R423	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R311	1-216-685-11	METAL CHIP	27K 2% 1/10W	R425	1-216-097-91	METAL GLAZE	100K 5% 1/10W
R312	1-216-081-00	METAL CHIP	22K 5% 1/10W	R426	1-216-061-00	METAL CHIP	3.3K 5% 1/10W
R313	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R427	1-216-069-00	METAL CHIP	6.8K 5% 1/10W
R316	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	R431	1-216-081-00	METAL CHIP	22K 5% 1/10W
R317	1-216-097-91	METAL GLAZE	100K 5% 1/10W	R432	1-216-033-00	METAL CHIP	220 5% 1/10W
R321	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R701	1-249-417-11	CARBON	1K 5% 1/4W
R322	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R702	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R323	1-216-041-00	METAL CHIP	470 5% 1/10W	R703	1-216-055-00	METAL CHIP	1.8K 5% 1/10W
R324	1-216-050-00	METAL GLAZE	1.1K 5% 1/10W	R704	1-216-030-00	METAL CHIP	160 5% 1/10W
R325	1-216-080-00	METAL CHIP	20K 5% 1/10W	R705	1-216-069-00	METAL CHIP	6.8K 5% 1/10W
R328	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R706	1-216-053-00	METAL CHIP	1.5K 5% 1/10W
R329	1-216-059-00	METAL CHIP	2.7K 5% 1/10W	R707	1-216-073-00	METAL CHIP	10K 5% 1/10W
R330	1-249-390-11	CARBON	5.6 5% 1/4W	R708	1-216-053-00	METAL CHIP	1.5K 5% 1/10W
R331	1-249-390-11	CARBON	5.6 5% 1/4W	R709	1-216-069-00	METAL CHIP	6.8K 5% 1/10W
R332	1-249-440-11	CARBON	82K 5% 1/4W	R710	1-216-069-00	METAL CHIP	6.8K 5% 1/10W
R333	1-249-440-11	CARBON	82K 5% 1/4W	R711	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R341	1-208-813-11	METAL GLAZE	20K 2% 1/10W	R712	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R342	1-216-069-00	METAL CHIP	6.8K 5% 1/10W	R713	1-249-417-11	CARBON	1K 5% 1/4W
R343	1-216-081-00	METAL CHIP	22K 5% 1/10W	R714	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R344	1-216-081-00	METAL CHIP	22K 5% 1/10W	R715	1-216-072-00	METAL CHIP	9.1K 5% 1/10W
R351	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R716	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R352	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R717	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R371	1-216-054-00	METAL GLAZE	1.6K 5% 1/10W	R718	1-216-081-00	METAL CHIP	22K 5% 1/10W
R372	1-216-097-91	METAL GLAZE	100K 5% 1/10W	△ R719	1-219-135-11	FUSIBLE	0.15 10% 1/4W F
R373	1-216-097-91	METAL GLAZE	100K 5% 1/10W	△ R720	1-219-137-11	FUSIBLE	0.33 10% 1/4W F
R374	1-216-689-11	METAL CHIP	39K 0.5% 1/10W	R721	1-249-425-11	CARBON	4.7K 5% 1/4W
R375	1-216-081-00	METAL CHIP	22K 5% 1/10W	R722	1-216-689-11	METAL CHIP	39K 0.5% 1/10W
R376	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R723	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R377	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R724	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R378	1-216-066-00	METAL CHIP	5.1K 5% 1/10W	R725	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R379	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	△ R730	1-219-139-11	FUSIBLE	0.68 10% 1/4W F
△ R385	1-249-401-11	CARBON	47 5% 1/4W F	△ R731	1-219-139-11	FUSIBLE	0.68 10% 1/4W F
R391	1-216-081-00	METAL CHIP	22K 5% 1/10W	R801	1-216-081-00	METAL CHIP	22K 5% 1/10W
R401	1-216-080-00	METAL CHIP	20K 5% 1/10W	R802	1-216-081-00	METAL CHIP	22K 5% 1/10W
R402	1-216-078-00	METAL CHIP	16K 5% 1/10W	R803	1-216-097-91	METAL GLAZE	100K 5% 1/10W
R403	1-216-070-00	METAL CHIP	7.5K 5% 1/10W	R804	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R404	1-216-089-91	METAL CHIP	47K 5% 1/10W	R806	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R405	1-216-080-00	METAL GLAZE	20K 5% 1/10W	R807	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R406	1-216-092-00	METAL GLAZE	62K 5% 1/10W	R808	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R407	1-216-082-00	METAL CHIP	24K 5% 1/10W	R809	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R408	1-216-079-00	METAL CHIP	18K 5% 1/10W	R810	1-216-059-00	METAL CHIP	2.7K 5% 1/10W
R409	1-216-074-00	METAL CHIP	11K 5% 1/10W	R811	1-216-059-00	METAL CHIP	2.7K 5% 1/10W
R410	1-216-085-00	METAL CHIP	33K 0.5% 1/10W	R812	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R411	1-216-087-91	METAL GLAZE	39K 5% 1/10W	R813	1-216-053-00	METAL CHIP	1.5K 5% 1/10W
R412	1-216-082-00	METAL GLAZE	24K 5% 1/10W	R814	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R413	1-216-085-00	METAL CHIP	33K 5% 1/10W	R815	1-216-046-00	METAL CHIP	750 5% 1/10W
R414	1-216-090-00	METAL GLAZE	51K 5% 1/10W	R816	1-216-041-00	METAL CHIP	470 5% 1/10W
R415	1-216-083-00	METAL CHIP	27K 5% 1/10W				
R416	1-216-090-00	METAL GLAZE	51K 5% 1/10W				

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△ R817	1-212-954-11	FUSIBLE	6.8 5% 1/2W F	*	A-2007-529-A	PANEL BOARD, COMPLETE (US,CND,AUS)	
R822	1-216-097-91	METAL GLAZE	100K 5% 1/10W	*	A-2007-532-A	PANEL BOARD, COMPLETE (AEP,UK,G,SP,MY)	
R823	1-216-073-00	METAL CHIP	10K 5% 1/10W	*	A-2007-534-A	PANEL BOARD, COMPLETE (E)	
R824	1-216-049-91	METAL GLAZE	1K 5% 1/10W			*****	
R825	1-216-089-91	METAL GLAZE	47K 5% 1/10W			POWER SW 1 BOARD (AEP,UK,G,SP,MY)	
R831	1-216-073-00	METAL CHIP	10K 5% 1/10W			*****	
						POWER SW2 BOARD (US,CND,E,AUS)	

R832	1-216-073-00	METAL CHIP	10K 5% 1/10W			TRANS 1 BOARD (EXCEPT E)	
R834	1-216-083-00	METAL CHIP	27K 5% 1/10W			*****	
R835	1-216-083-00	METAL CHIP	27K 5% 1/10W			TRANS 2 BOARD	
R845	1-216-073-00	METAL CHIP	10K 5% 1/10W			*****	
R846	1-216-073-00	METAL CHIP	10K 5% 1/10W			VOL BOARD	

R847	1-216-073-00	METAL CHIP	10K 5% 1/10W	*	3-386-245-11	HOLDER (FL)	
R848	1-216-073-00	METAL CHIP	10K 5% 1/10W			< CAPACITOR >	
R849	1-216-073-00	METAL CHIP	10K 5% 1/10W				
R850	1-216-073-00	METAL CHIP	10K 5% 1/10W				
R851	1-216-073-00	METAL CHIP	10K 5% 1/10W				
				△ C717	1-113-925-11	ELECT 0.01uF 20% 250V	
R852	1-216-073-00	METAL CHIP	10K 5% 1/10W			(AEP,UK,G,SP,MY)	
R853	1-216-073-00	METAL CHIP	10K 5% 1/10W	C720	1-136-165-00	FILM 0.1uF 5% 50V	
				C721	1-136-165-00	FILM 0.1uF 5% 50V	
		< VARIABLE RESISTOR >				< CONNECTOR >	
RV111	1-238-019-11	RES, ADJ, CARBON 47K (REC EQ IV L)		CN901	1-778-065-11	SOCKET, CONNECTOR 39P	
RV112	1-241-765-11	RES, ADJ, CARBON 22K (REC LEVEL L)		CN902	1-568-825-11	CONNECTOR, FFC/FPC 6P	
RV121	1-241-765-11	RES, ADJ, CARBON 22K (REC BIAS L)				< CONNECTOR >	
RV151	1-241-759-21	RES, ADJ, CARBON 220 (PB LEVEL R)					
RV211	1-238-019-11	RES, ADJ, CARBON 47K (REC EQ IV R)		* CNP702	1-580-230-31	PIN, CONNECTOR (PC BOARD) 2P (EXCEPT E)	
RV212	1-241-765-11	RES, ADJ, CARBON 22K (REC LEVEL R)		CNP703	1-568-226-11	PIN, CONNECTOR 2P (AEP,UK,G,SP,MY)	
RV221	1-241-765-11	RES, ADJ, CARBON 22K (REC BIAS R)				< DIODE >	
RV251	1-241-759-21	RES, ADJ, CARBON 220 (PB LEVEL R)		D901	8-719-987-63	DIODE 1N4148M	
RV312	1-241-762-11	RES, ADJ, CARBON 4.7K (REC EQ IV)		D902	8-719-987-63	DIODE 1N4148M	
		< TRANSFORMER >		D903	8-719-987-63	DIODE 1N4148M	
T121	1-433-344-11	TRANSFORMER, BIAS OSCILLATION				< IC >	
T221	1-433-344-11	TRANSFORMER, BIAS OSCILLATION		IC901	8-741-810-59	IC SBX1810-59	
T321	1-423-614-11	TRANSFORMER, BIAS OSCILLATION				< LINE FILTER >	
		< TEST PIN >					
* TP321	1-564-506-11	PLUG, CONNECTOR 3P		△ LF701	1-424-485-11	FILTER, LINE (EXCEPT E)	
* TP802	1-560-060-00	PIN, CONNECTOR 2P				< TRANSISTOR >	
		< VIBRATOR >		Q901	8-729-900-89	TRANSISTOR DTC144ES	
X801	1-577-358-21	VIBRATOR, CERAMIC (4MHz)		Q902	8-729-900-89	TRANSISTOR DTC144ES	
		*****		Q903	8-729-900-89	TRANSISTOR DTC144ES	
						< RESISTOR >	
				R115	1-249-425-11	CARBON 4.7K 5% 1/4W	
				R215	1-249-425-11	CARBON 4.7K 5% 1/4W	
				R327	1-249-429-11	CARBON 10K 5% 1/4W	
				R833	1-249-429-11	CARBON 10K 5% 1/4W	
				R838	1-249-441-11	CARBON 100K 5% 1/4W	

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PANEL
POWER SW1
POWER SW2
TRANS 1
TRANS 2
VOL
SW A

Ref. No.	Part No.	Description	Remark
R839	1-249-441-11	CARBON 100K 5%	1/4W
R840	1-249-441-11	CARBON 100K 5%	1/4W
R841	1-249-441-11	CARBON 100K 5%	1/4W
R842	1-249-441-11	CARBON 100K 5%	1/4W
R843	1-249-441-11	CARBON 100K 5%	1/4W
R844	1-249-441-11	CARBON 100K 5%	1/4W
R861	1-249-441-11	CARBON 100K 5%	1/4W
R901	1-249-441-11	CARBON 100K 5%	1/4W
R905	1-247-838-00	CARBON 2K 5%	1/4W
R906	1-249-422-11	CARBON 2.7K 5%	1/4W
R907	1-247-848-11	CARBON 5.1K 5%	1/4W
R908	1-249-429-11	CARBON 10K 5%	1/4W
R909	1-247-866-11	CARBON 30K 5%	1/4W
R910	1-247-838-00	CARBON 2K 5%	1/4W
R911	1-249-422-11	CARBON 2.7K 5%	1/4W
R912	1-247-848-11	CARBON 5.1K 5%	1/4W
R915	1-249-429-11	CARBON 10K 5%	1/4W
R916	1-247-866-11	CARBON 30K 5%	1/4W
R917	1-247-836-11	CARBON 1.6K 5%	1/4W
R918	1-247-840-00	CARBON 2.4K 5%	1/4W
R919	1-249-423-11	CARBON 3.3K 5%	1/4W
R920	1-249-426-11	CARBON 5.6K 5%	1/4W
R921	1-247-858-11	CARBON 13K 5%	1/4W
R922	1-247-868-11	CARBON 36K 5%	1/4W
R923	1-247-807-31	CARBON 100 5%	1/4W
< VARIABLE RESISTOR >			
RV311	1-225-221-11	RES, VAR, CARBON 5K/5K (REC LEVEL)	
RV321	1-225-222-11	RES, VAR, CARBON 5K/5K (BIAS)	
RV395	1-225-219-11	RES, VAR, CARBON 50K/50K (BALANCE)	
RV396	1-225-220-11	RES, VAR, CARBON 50K/50K (REC LEVEL)	
< SWITCH >			
S901	1-554-303-21	SWITCH, TACTILE(■)	
S902	1-554-303-21	SWITCH, TACTILE(◀◀)	
S903	1-554-303-21	SWITCH, TACTILE(▶▶)	
S904	1-554-303-21	SWITCH, TACTILE(●)	
S905	1-554-303-21	SWITCH, TACTILE(○)	
S906	1-554-303-21	SWITCH, TACTILE(▷)	
S907	1-554-303-21	SWITCH, TACTILE(■)	
S908	1-554-303-21	SWITCH, TACTILE(MEMORY)	
S909	1-554-303-21	SWITCH, TACTILE(RESET)	
S910	1-554-303-21	SWITCH, TACTILE(MONITOR)	
S911	1-554-303-21	SWITCH, TACTILE(CALIBRATION)	
S913	1-762-647-11	SWITCH, ROTARY(DOLBY NR)	
S915	1-762-580-11	SWITCH, PUSH (1 KEY)(POWER)(US,CND,E,AUS)	
△ S922	1-762-581-11	SWITCH, AC POWER PUSH(1 KEY) (POWER) (AEP,UK,G,SP,MY)	
< INDICATOR TUBE >			
VFD901	1-517-163-11	INDICATOR TUBE, FLUORESCENT	

Ref. No.	Part No.	Description	Remark
*	1-634-841-14	SW A BOARD *****	
< CONNECTOR >			
* CNP81	1-568-852-11	SOCKET, CONNECTOR 9P	
< IC >			
IC81	8-749-924-10	IC PHONT REFLECTOR NJL5165K-B(H1)	
IC82	8-749-924-10	IC PHONT REFLECTOR NJL5165K-B(H1)	
< RESISTOR >			
R81	1-249-414-11	CARBON 560 5%	1/4W
R83	1-247-834-11	CARBON 1.3K 5%	1/4W
R84	1-249-417-11	CARBON 1K 5%	1/4W
R85	1-249-408-11	CARBON 180 5%	1/4W
R86	1-249-408-11	CARBON 180 5%	1/4W
< SWITCH >			
S81	1-571-958-11	SWITCH, PUSH (1 KEY)(STOP SW)	
S82	1-571-281-21	SWITCH, LEAF (CrO2)	
S83	1-571-281-21	SWITCH, LEAF (METAL)	
S84	1-571-281-21	SWITCH, LEAF (REC)	
S86	1-571-281-21	SWITCH, LEAF (HALF)	

MISCELLANEOUS			

△ 10	1-551-188-XX	CORD, POWER (E)	
△ 10	1-558-945-21	CORD, POWER (POLAR.SPT-1)(US,CND)	
△ 10	1-575-651-21	CORD, POWER (AEP,G,SP,MY)	
△ 10	1-696-586-11	CORD, POWER (UK)	
△ 10	1-696-845-11	CORD, POWER (AUS)	
△ 10	1-751-523-11	CORD, POWER (UK)	
△ 11	1-569-007-11	ADAPTER, CONVERSION 2P (E)	
57	1-777-109-11	WIRE (FLAT TYPE) (39 CORE)	
60	1-777-110-11	WIRE (FLAT TYPE) (6 CORE)	
66	1-769-916-11	WIRE (FLAT TYPE) (9 CORE)	
67	1-769-878-11	WIRE (FLAT TYPE) (7 CORE)	
120	1-638-983-11	MOTOR FLEXIBLE BOARD	
HE101	1-543-673-11	HEAD, MAGNETIC (ERASE)	
HRP101	1-543-733-11	HEAD, MAGNETIC (RECORD/PLAYBACK)	
M1	X-3363-501-2	MOTOR ASSY (REEL)	
M2	X-3368-855-1	MOTOR ASSY (CAPSTAN)	
△ S701	1-692-155-11	SELECTOR, POWER VOLTAGE (VOLTAGE SELECTOR) (E)	
△ T701	1-429-611-11	TRANSFORMER, POWER (US,CND)	
△ T701	1-429-612-11	TRANSFORMER, POWER (EXCEPT US,CND,AUS, E)	
△ T701	1-429-613-11	TRANSFORMER, POWER (E)	
△ T701	1-429-659-11	TRANSFORMER, POWER (AUS)	
VFD901	1-517-163-11	INDICATOR TUBE, FLUORESCENT	

The components identified by mark
△ or dotted line with mark △ are
critical for safety.
Replace only with part number
specified.

Les composants identifiés par une
marque △ sont critiques pour la
sécurité.
Ne les remplacer que par une pièce
portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
ACCESSORIES & PACKING MATERIALS			

	1-551-734-11	CORD, CONNECTION	
	3-856-131-11	MANUAL, INSTRUCTION (ENGLISH,FRENCH, SPANISH,PORTUGUESE)(CND,AEP)	
	3-856-131-21	MANUAL, INSTRUCTION (ENGLISH)(US,UK,AUS)	
	3-856-131-31	MANUAL, INSTRUCTION (GERMAN,DUTCH, SWEDISH,ITALIAN)(AEP)	
	3-856-131-41	MANUAL, INSTRUCTION (GERMAN)(G)	
	3-856-131-51	MANUAL, INSTRUCTION (ENGLISH,FRENCH, SPANISH,CHINESE)(E,SP,MY)	
*	3-932-083-01	CUSHION (KE500S)	
*	3-935-038-01	INDIVIDUAL CARTON (AEP,UK,G,SP,MY)	
*	3-935-040-01	INDIVIDUAL CARTON (KA1ESA)	
*	3-935-093-01	INDIVIDUAL CARTON (KE500S:US,E,AUS)	
*	3-936-086-01	CUSHION (KA1ESA)	

HARDWARE LIST			

#1	7-682-548-04	SCREW +BVTT 3X8 (S)	
#2	7-685-871-01	SCREW +BVTT 3X6 (S)	
#3	7-685-871-09	SCREW +BVTT 3X6 (S)(KA1ESA)	
#4	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#5	7-685-862-09	SCREW +BVTT 2.6X6 (S)	
#6	7-685-134-19	SCREW (+ PTPWH)(2.6X8)	
#7	7-621-772-10	SCREW +B 2X4	
#8	7-627-556-08	SCREW +P 2.6X2.8	
#9	7-621-775-00	SCREW +B 2.6X3	

